ABSTRACTS

ORAL PRESENTATIONS

Restorative Dentistry

1. SURFACE DETERIORATION OF DENTAL MATERIALS AFTER SIMULATED TOOTHBRUSHING

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Turkey

Objective: To evaluate the changes in surface roughness after simulated toothbrushing of two composite materials and one ceramic material, in vitro.
Materials and methods: Ten flat specimens of two composite materials (nanofilled with submicron filler**:** Clearfil Majesty Esthetic (Kuraray, Japan), highly reinforced nanohybrid**:** Aelite Aesthetic Enamel (Bisco, USA**)**, one ceramic material (glazed IPS Empress) were fabricated according to the manufacturer's instructions and composite materials optimally polished with Enhange (Densply, Germany) and Soflex (3M Espe, USA) polishing disks. Surface roughness Ra of the materials was measured with portable surface roughness tester (Mitutoyo, USA). The specimens were subjected to a tooth brushing simulation device in 37Cº water and at 250 g loads for 30 days, 15 minutes in a day. Then, mean surface roughness Ra was measured again. The Ra data before and after toothbrushing were statistically analyzed using one-way ANOVA and Tukey's test at a significance level p =0.05
Results: The nanofilled composite material Majesty Esthetic demonstrated more surface deterioration (by mean surface roughness Ra) after toothbrushing. ($p < 0.05$). The ceramic material and one of the nano hybrid composite material Aelite Aesthetic showed no further deterioration (roughness) after 30 days of toothbrushing. There was no significant difference between polishing types of composite materials ($p > 0.05$).
Conclusions: The surface roughness of dental materials changes with simulated toothbrushing in different material rankings. Apart from Majesty Esthetic, the nanofilled composite resin was more prone to surface changes than nanohybrid composite and ceramic.

Keywords: simulation, toothbrushing, surface roughness

2. INFLUENCE OF DIFFERENT DRINKS ON THE COLOR OF DENTAL MATERIALS

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Introduction: The aim of this study was to evaluate the effect of the tea and cola on the color stability of a porcelain (IPS Empress) and two reinforced composite resins (Clearfil Majesty Esthetic, Aelite Aesthetic) before and after toothbrush aging.
Materials and methods: Disk-shaped specimens from each materials were prepared using a silicon cylindrical mold measuring 1mm of thickness and 10 mm of diameter and then the specimen randomized into 2 groups according to staining solution (tea and cola soft drink) (n=5). Composite specimens were polished using Enhance polishing cups (Densply, Germany). Specimen's colour (CIE L* a* b* system) were measured by a spectrophotometer (VITA Easyshade, Vident). All specimens were immersed in staining solutions for 26 days, 6 hour in a day. At the same time the specimens were subjected to a toothbrushing simulation device (Selcuk) with rotating movements in 37Cº water and at 250 g loads for 26 days, 15 minutes in a day. Afterwards specimens were submitted to a new colour measurement. The change in colour (ΔE) was calculated using the formula**:** $\Delta E = [(\Delta L^*)2 + (\Delta a^*)2 + (\Delta b^*)2]1/2$. The data were analyzed by one-way ANOVA followed by a Tukey's HSD test (p=0.05).
Results: ΔE of all materials was changed after immersion in staining solutions and toothbrushing simulation. Majesty Esthetic immersed in tea solution and simulated toothbrushing showed highest color change ($p < 0.05$). IPS Empress presented the lowest color change among all of the groups ($p < 0.05$).
Conclusions: Porcelain was significantly more color stable than the reinforced composite materials with or without the toothbrushing simulation. The tea can cause discoloration in composite resins but the cola can't.

Keywords: composite resins, dental porcelain, toothbrushing, color change

3. PERFORMANCE OF LIGHT INDUCED FLUORESCENCE DEVICE FOR THE DETECTION OF OCCLUSAL CARIES IN VIVO

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Turkey

Introduction: Carious dentin has two layers which were described infected and noninfected. The hardness (tactile criteria) and the color of dentin (visual criteria) are presently the main parameters used by clinicians to differentiate infected and non-infected dentin during caries excavation. The aim of this in vivo study was to investigate the efficiency of Caries Detector (Kuraray Medical, Okayama, Japan) and light induced fluorescence evaluator (Life-DT, SoproLife, Acteon Imaging, France) in detection of residual caries in excavated cavities.
Materials and methods: Sixty-seven permanent molar teeth were used in this study. Teeth with suspicious occlusal surfaces were selected and prepared with a flame shaped diamond bur to determine the presence of caries. If the teeth have caries, the cavity preparation continued until two observers made the decision of the absence of residual caries with conventional methods (visual and

tactile examinations). Then the cavities were assessed using Caries Detector and SoproLife according to the manufacturers' instructions for detecting residual caries. Two examiners recorded the evaluations independently.
Kappa statistic was used to assess inter-examiner's accuracy values (Kappa value 1**:** perfect agreement, Kappa value above 0.75**:** excellent agreement, Kappa value from 0.4 to 0.75**:** good agreement, Kappa value below 0.4**:** marginal agreement). Specificities and accuracy were calculated for each diagnostic method using conventional methods.
Results: Inter-examiner agreements with Kappa were 0.931 for SoproLife, 1.0 for caries detector. Specificity and accuracy values were 68% for SoproLife both of examiners. Specificity and accuracy values were 91% of caries detector for both of examiners.
Conclusions: For detection of residual caries, SoproLife may be helpful with an additional diagnostic tool.

Keywords: Caries Detector, SoproLife, Residual Caries

4. AN IN VITRO STUDY ON DENTIN CARIES' RADIOLOGICAL DIGITAL DETECTION

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Introduction: The aim of this study was to evaluate the value of digital manipulation of radiological images in order to get a valuable diagnosis for internal dentin caries. The statistics tools were represented by the Receiver Operating Characteristics curves.
Materials and methods: 75 proximal surfaces from anterior extracted teeth and 75 proximal surfaces of posterior extracted teeth with obvious deep carious lesions were radiographed using a standardized parallel technique. The radiographs were scanned and the resulted images were digitally processed and enhanced with automatic and manual digital commands of an image editor. The images of the fragments of interest were viewed at the scanning electronic microscope and the results were used as validation of the working method. The images were given for analysis to six observers having various computer skills and different radiological and clinical background.
Results: The mean A (z) was 0,742 for the images on film and it was 0,766 for the enhanced images (p>0,05).
Conclusions: Scanning of conventional films and digital manipulation of the resulted images using image editors have provided useful information for caries detection.
The diagnostic performance of all observers improved after digital processing. The chosen commands varied according to the type of study and to the characteristics of the observers. The thickness and the degree of mineralization of the remaining dentin between the caries' cavities and the pulp chamber were better evaluated on the digitally enhanced images.
Autolevels, inversion, unsharp mask and emboss were the most efficient functions whose effects drove to significant improvements over the quality of internal dentin caries' detection.

Keywords: dentin caries' detection, digital enhancement of the radiological image, diagnostic performance

5. EFFECT OF AN ADHESION BOOSTER ON MICROTENSILE BOND STRENGTH OF COMPOSITE RESIN IN PERMANENT TEETH

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Turkey

Introduction: Adhesion booster, a tooth surface primer advocated by Bowen to increase the bond strength of composite resin to tooth surfaces, has been available in dentistry. The aim of this study was to determine the bonding performance of an adhesion booster to permanent teeth dentin.
Materials and methods: Ten freshly extracted and carious free human mandibular molars were used. The occlusal surface was ground until all occlusal enamel using diamond saw under water cooling and flat dentin surfaces were obtained using diameter. The dentin surfaces were hand polished with 600 grit silicon carbide abrasive papers under running water. The teeth were randomly divided into two groups. First group (Group1)**:** Total etch adhesive system (Adper Scotchbond Multi Purpose Plus, 3M ESPE, UK). Second group (Group2)**:** Total etch adhesive system + adhesive booster (Enhance, Reliance, USA).Resin composite crown was built up incrementally in three to four layer to a height of 4-5 mm. After 24 hours' storage in 37oC water, specimens were sectioned with a cross-sectional area of 1 mm2. Sixty-three specimens were tested. All specimens were subjected to microtensile bond test at a cross-head speed of 1mm/min until fracture occurred. Surface of fractured specimens was examined with a stereomicroscope.
Results: The results were analyzed statistically by independent t-test. Micro tensile bond strength of Group 1 and Group 2 were 27.47 MPa and 27.66 MPa respectively. Statistical analysis showed no differences between groups (p>0.05).
Conclusions: This study revealed that Enhance adhesion booster did not improve the bond strength of composite resin to dentin surface.

Keywords: Adhesion booster, dentin bonding, microtensile

6. EFFECT OF THERMAL AND LOAD CYCLING ON MICROLEAKAGE IN CLASS II RESTORATIONS

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Turkey

Introduction: The purpose of this study was to evaluate the effect of thermal and load cycling on the marginal sealing ability of different Class II restorations.
Materials and methods: Caries-free extracted human molars were used. Proximal Class II cavities with gingival floors located on dentin at one side and on enamel on the other side were prepared. Restorations were placed as

indicated**:** 1) Ketac Molar Easy Mix (3M ESPE), 2) Adper Single Bond/ Filtek Supreme (3M ESPE), 3) Clearfil Tri-S Bond/Clearfil AP-X (Kuraray), 4) G Bond / Gradia (GC), 5) Prime & Bond NT / Esthet X HD (Dentsply). Then, the samples (except control group) were subsequently subjected to certain amounts of TC (thermocycling) (5-55 °C,) and MFL (mechanical fatigue loading) (100 N). The groups were as follows**:** Control, 104 TC, 105 MFL and 104/105 TC/MFL. Samples were immersed in 0.5% basic fuchsin, sectioned and evaluated for microleakage. The data were analyzed using Mann-Whitney U test.

Results: When the enamel margins were compared, no significant differences were found between the control and TC groups. However, MFL increased the microleakage values for Tri-S Bond/ Clearfil AP-X and G-Bond/ Gradia and TC/MFL increased the microleakage values for Single Bond/Supreme, Tri-S Bond/ Clearfil AP-X, G-Bond/ Gradia when compared to control group. When the dentin margins were compared, no significant differences were found between the control and TC groups. MFL increased the microleakage values for only Ketac Molar Easy Mix and TC/MFL increased the microleakage values for Ketac Molar Easy Mix, Single Bond/ Filtek Supreme, G-Bond/ Gradia and Prime & Bond NT / Esthet X HD.

Conclusions: This study showed that TC alone may not affect the microleakage from restoration margins. Hovewer, aging the specimens with MFL or with MFL and TC together may contribute to increased microleakage values from restoration margins.

Keywords: microleakage, load cycling, thermocycling

7. FEATURES OF DIAGNOSTICS AND TREATMENT OF TEETH BY VI CLASS

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Introduction: The majority of practical dentists are assured that in classification of Black are only five classes of cavities, however there is also a sixth class. Addition to the classification of Black to 6 classes of the cavities refers the cavities localized at cutting edge of cutters and at tops of hillocks of canines, premolars and molars. In some cases all treatment is reduced to preparation, with the subsequent sealing of cavities. The optimal depth of the cavity is 2 mm, if it is not associated with lesions of the deeper layers of dentin. Material used for obturation of cavities of VI Class are composites, compomers, glass-ionomers etc.

Materials and methods: Feature of preparation of cavities of VI class consists in more sparing approach to removal of the amazed fabrics as irrational removal of firm fabrics of tooth will lead to zone weakening on which the greatest functional loading (the cutting edge and tops of hillocks) is necessary. The inclination of walls can be achieved by making a bevel along the edges of a cavity at an angle 10-15°. Depth of a cavity 1,5-2 mm (in a case if there are no indications to deeper preparation) is optimum. After delimitation of restoration work sharp sites of edge of enamel are polished from a crown of tooth. This intervention is carried out on the enamel segments which form to modify while obturation not possible.

Results: and Discussion**:** Treatment of defects of class VI in generalized form should be complex, as they are accompanied by such phenomena as significant loss of dental hard tissues, lowering the lower part of the face, changes in the temporomandibular joint. In such cases, preparation and filling of the defect is rarely the best choice. Often, patients require complex orthopedic treatment with restoration of the height of the occlusion, replacing defects with artificial crowns.

Conclusions: Treatment of cavities VI class of generalized form should be carried out complex, coordinating treatment between dental therapist, prosthodontist, periodontist. The feature of dental treatment, affected by the class VI, is more sparing approach to the removal of carious tissue. The optimal depth of the cavity is 2 mm, if it is not associated with lesions of the deeper layers of dentin. Given the large occlusal forces should be used for sealing materials with sufficient strength and resistance to abrasion.

Keywords: class VI cavities, complex treatment

8. DENTAL EROSIONS- CLINICAL STUDY

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Dentine sensitivity is caused by different stimuli applied on exposed dentinal surface. In sensitive dentin the dentinal tubules are open. It is obvius that the main problem is the existing of the exposed dentin but only in the phenomenon of hypersensitivity. Therefore, dental erosive changes are very often associated with dentin sensitivity due to freely exposed dental surface. The aim od the present clinical study was to assess the correlation between the dental erosions in the setting of inadequate oral hygiene with the occurrence of the dentin sensitivity. Three hundred of patients with dentin sensitivity were randomly chosen and examined. The findings are summarized according to sex distribution and patient's age. The general dental anamnesis was taken and health record was established. Morphological appearance of damaged dental surfaces, depth of dental hard tissues changes, the pH value of saliva are particularly evaluated. Majority of patients with erosive changes showed clinical signs of dental sensitivitiy and inadequate oral hygiene. Based on obtained results we can conclude that there is strong connection between inadequate oral hygiene, erosive dental changes and dental sensitivity.

9. USING OF FIBER POST IN RECONSTRUCTION OF TRIDEMESIONAL OBTURATED TEETH

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Introduction: The actual knowledge about composite resin and adhesive systems may open to dentists the chance to have another option besides indirect dental restoration performed in dental lab. Fiber post has optimal

biomechanical properties, dentin similar elasticity, which minimizes the risk of root canal fracture, being superior to metallic ones by their esthetic aspect, resistance and dental tissue biocompatibility. The fiber post is applied immediately after apical seal, uniform distributing the forces at the root canal wall, and they do not tattoo the gum. The purpose of this paper is to stress the superior properties and qualities of fiber post beside metallic post.
Materials and methods: We present some personal cases (teeth rebuild with fiber post). Endodontic seal of rebuild teeth was performed using warm vertical compactation followed by thermoplasticised gutapercha injection of entire root canal space. The fundamental objective of endodontic obturation was tridimensional seal of entire root canal space.
Results: To achieve direct technique in coronal reconstruction of devitalized teeth, they must accomplish the following tasks**:** remained coronal tissue has to offer sufficient retention, supra or juxtagingival coronal destruction in order to permit a good sealing. Root canal system must be well represented from qualitative and quantitative point of view to be used as supplementary retention solution. Parodontal tissues must have a good quality and a minimum affection.
Conclusions: By using these systems it is eliminated the risk of root fractures, marginal microleakage and materials corrosions.

Keywords: fiber post, teeth, apical seal

10. EVALUATION OF BIOMECHANICAL BEHAVIOUR OF FULL DENTATE MANDIBLE

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Introduction: Knowledge of the complex biomechanical behaviour of the human mandible is of great importance in various clinical situations. The aim of this study was to investigate distribution of stress and strain of full dentate mandibula during occlusal loading, and to present an improved way of modelling by using computer-aided engineering (CAE) and computeraided design (CAD) methods.
Materials and methods: The model geometry was derived from CT scans of a dry human mandible. The materials were idealized as transversely isotropic and homogenous and material properties were obtained from literature data. The complete model consisted of 130.910 solid elements and 86072 nodes.
Results: The observed strain and stress values were highest around the condylar and coronoid region. The strains peaked along the alveolar margin, on the buccal aspect, adjacent to the teeth which receive the occlusal load. Also the maximal displacements were recorded during molar bite, on the balancing side at the gonial angle and posterior lower border of the mandible.**Conclusions:** This investigation utilized finite element analysis in biomechanical behavior of the mandible, and presented the pattern of distribution of stress and strain in full dentate mandibula. It is also the suggestion of the study that the model can be used for various mandibular functional movements, such as opening, protrusion and biting. Due to the power of new-generation PCs and laptops and the availability of compact but powerful FEA packages, the model can be adapted to a PC and in future can be used to analyze functional movements by the dental practitioner.

Keywords: full dentate mandible, biomechanical, CAE/CAD

11. ANTIBIOTIC RESISTANCE OF SPECIFIC MICROORGANISMS AFTER ALVEOLAR RIDGE RECONSTRUCTION

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Introduction: The aim of this preliminary study was to determinate of phenotypic resistance to antibiotics of experimental monospecific biofilms isolated from infections area in the mouth, from consecutive poor alveolar ridge reconstruction with bone addition.
Materials and methods: Clinical and microbiological study was conducted on 4 strains of *Pseudomonas aeruginosa* and 4 strains *Staphylococcus aureus*, isolated from infectious processes, after alveolar ridge reconstruction, from 15 patients in the period of 4 years (2007-2010). The experimental model was developed for determining antibiotic sensitivity of bacterial cells included in biofilms. Namely, model development of biofilms in 96-well plates of plastic, crystal violet staining and reading absorbancin. The used antibiotics were**:** Colistin for the cases with *Ps. aeruginosa*, and Gentamicin for the cases with *S. aureus*.
Results: *P. aeruginosa* biofilm formation on plastic with presence of Colistin has been observed that microbial biofilms formed in the presence of various concentrations of antibiotic, the cells are similar in number and relatively stable, unlike the biofilms developed in the absence of antibiotic which has a maximum number of cells at 48h, after which cell number drops sharply. *S. aureus* biofilm formation in plastic wells with Gentamicin, results were similar developments were seen in the relatively constant at different times of the biofilm in the presence of antibiotic, irrespective of concentration.
Conclusions: Results obtained by using experimental model demonstrated that the antibiotic exerts a selective pressure on cells included in the biofilm, preventing the attainment of high cell densities, which would hasten ripening and decay that microbial biofilms. Therefore, antibiotics regardless of concentration, favoried the maintenance of early biofilms and their persistence over long periods of time in the body.
Keywords: septic complications, antibiotic resistance, alveolar ridge reconstruction

12. IN VITRO STUDY OF MARGINAL PERCOLATION OF BIOADHESIVE MATERIALS

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Introduction: Percolation represents the entrance of bacteria and their toxins between the restoration and cavity walls. The purpose of this study is to evaluate the percolation of three restoratives materials using photospectometrical investigations.
Materials and methods: Class I cavities with 2mm and 3 mm in depth were prepared. Teeth were divided in three groups with ten teeth each and each group was restored according to the specific protocol for that material. The first group was restored using hybrid composite Herculite (Kerr) with adhesive system Optibond (kerr); the second group with glass-ionomer Hetac-Molar (3M ESPE); the third group with Compoglass compomer (Vivadent). Teeth had stayed for 7 days in 100% humidity and then the surface of the tooth was covered with 2 layers of varnish except 1 mm the interface restoration – cavity margins. Teeth had been introduced in Evans blue for 10 days and after that they were cut, using diamante discs under continuous cooling, at 1 mm, 2 mm and 3 mm from margins of cavity. The sections were weighted and introduced in hydrochloric acid for total demineralization, after that disintegrated by inserting them in 500C formamide for 14 hours, and the obtained liquid was tested using photospectometric investigations of Evans blue. Interpretation of the results was made using t-student and ANOVA tests.
Results: After the data analysis results that the compomer ensured a better marginal closing than the composite and glass-ionomer. This study analyses the sealing properties of the margins of cavity for three types of adhesive materials. None of the tested materials interferes with marginal percolation.
Conclusions: Photospectometric studies are objective and reveal the absorbed quantity of color agent per/g tooth.

Keywords: marginal percolation, photospectometry, bioadhesive materials.

13. THE INFLUENCE OF THE ETCHING TIME ON THE ENAMEL HYBRIDIZATION IN PREVENTIVE SEALING. IN VITRO STUDY

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Adhesion of dental materials to the dental hard tissue is dependent on a number of factors relating both to the material used and the type of approach to dental substrate. The purpose of this study was to analyze the size of the hybrid layer (HL) in evaluated sealed oclussal surfaces by scanning electron microscopy (SEM). Method**:** The study was realized in vitro on a sample of 16 human teeth premolars and molars extracted for orthodontic or periodontal reasons. Permission was obtained from a institutional ethical committee of University of Medicine and Pharmacy Gr.T.Popa, Iasi and that subjects gave written, informed consent. The teeth were divided at random into equal two groups (Gr1=etching time 20 seconds and GR2=etching time 60 seconds). The teeth were restored using 3M™ Schotchbond Etch, Single Bond Dental Adhesive System 3MTM, composite resin Concise (3MESPE). The materials were photo activated with halogen source (3M), stored (48h), cut lengthwise (diamond), polished, conditioned (H3PO4-37%-5s) analyzed by SEM (TESLA, BS 340), SPSS14.00 statistically analyzed (ANOVA, p = 0.05).
Results: Analysis of the HL has highlighted differences between groups only in the enamel p=.000 average size HL being Gr.1**:** 17.76 (±6.7)µm;Gr.2**:** 6.36 (±2.8)µm.
Conclusions: The thickness of enamel hybrid layer-sealing material is directly proportional with etching time, after 60 second hybrid layer has a thickness of about three times higher than in the case for 20 seconds demineralization.
Acknowledgements**:** The research was supported by a CNCSIS grant budget, no.2669/2008- ideas competition-exploratory research projects-Ultra structural analyze of dental hard tissue hybridization in the minimal invasive treatment of the dental lesions achieved through mechanical and kinetic treatment with laser

Keywords: resin composite, hybrid layer, enamel etch

14. CLASS II NONMETALLIC DIRECT RESTORATION EVALUATED BY INVASIVE AND NONINVASIVE

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Introduction: Class II cavities are often a challenge for dentists. There are a lot of procedures that can be used in order to fill this type of cavity and also a lot of problems concerning marginal adaptation, especially when nonmetallic materials are used. The aim of this study is to evaluate the integrity and marginal adaptation of class II nonmetallic fillings.
Materials and methods: 20 extracted teeth for orthodontic reasons were used as samples. Direct restorations were performed by composite resins and ionomers. Metallographic evaluation and laser spectroscopy were used as invasive methods. Rx, Micro CT, Confocal microscopy and optical coherence tomography were used as noninvasive methods.
Results: In all the samples defects were observed in the fillings and at the interface between the reconstruction materials and cavity walls.
Conclusions: Noninvasive evaluations methods have great capability to accomplish a high quality characterization of the class II nonmetallic direct restorations.

Keywords: class II cavity, evaluation methods, invasive methods, noninvasive methods

15. INFLUENCE OF TOOTHBRUSHING ON COLOR STABILITY OF AESTHETIC RESTORATIVE

MATERIALS

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Purpose**:** The aim of this study was to evaluate the color stability of a dental ceramic (glazed IPS Empress) and two dental composites (Clearfil Majesty Esthetic (Kuraray, Japan), Aelite Aesthetic Enamel (Bisco, USA**)** exposed to tea staining and simulated toothbrushing. **Materials and methods:** and Materials**:** Ten specimens from each composite materials and five specimen from glazed ceramic were prepared using a silicon cylindrical mold measuring ≅1mm of thickness and ≅ 10mm of diameter. Composite specimens were randomized into 2 groups (n= 5) and polishing systems; Sof-Lex (3M Espe, USA) and Enhance (Densply, Germany) were applied following manufacturers'' instructions. Specimen's colour (CIE L* a* b* system) were measured by a spectrophotometer (VITA Easyshade, Vident). All specimens were stained in tea for 26 days, 8 hour in a day. At the same time the all specimens were subjected to a tooth brushing simulation device (Selcuk) with rotating movements in 37Cº water and at 250 g loads for 26 days, 15 minutes in a day. Afterwards specimen's colour were measured again. The change in colour (ΔE) was calculated using the formula**:** ΔE =[(ΔL*)2+ (Δa*)2+ (Δb*)2]1/2. Statistical evaluation was performed by one-way ANOVA and Tukey's HSD test (p=0.05)
Results: For composite resins tested, between the mean ΔE values were observed statistically significantly different before and after tea staining and simulated tooth brushing (p < 0.05). Tooth brushing did effect the ceramic material for colour change (P>0.05). The effect of polishing systems on staining of composite materials was not statistically significant (P>0.05).
Conclusions: Porcelain was significantly more color stable than the composite materials. Tooth brushing made more susceptible dental materials for staining.

Keywords: aesthetic, color stability, materials

16. COMPARATIVE EVALUATION OF THE HYBRID LAYER IN LATERAL PREVENTIVE RESTORATIONS

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The purpose of this study was the OM = optical microscopy analysis of the dentinal HL=hybrid layer of two materials with metal alloy particles used in minimally invasive cavity preparations. The study included 10 human premolars and molars, extracted for orthodontic or periodontal reasons. The extracted teeth were used in the study after obtaining a informed consent from the patients, in compliance with the protocol approved by the ethics committee of UMF Gr.T.Popa Iasi. Samples were divided randomly into two equal groups (N = 5)**:** GR.1 (N = 5), GR2 (N = 5). Minimally invasive occlusal cavities were made using a mechanical preparation. We used cylindrical diamond burrs and carbide globular no. 1 burrs. The restorative materials used were**:** SE = 3M ™ Scotchbond Etch ™, dental adhesive ASBP = Adper Single Bond Plus (3M ESPE), glass-ionomer with metal alloy particles MM = MIRACLE MIX (3M ESPE) and non gamma 2 amalgam A=ANA2000. The analyzed groups were**:** GR.1**:** (5)SE™;MM and GR.2**:** (5)SE™;ASBP;A. Materials were used according to the manufacturer's instructions, the resulting samples were thermo cycled 500 cycles (5 0 -55 0), sectioned, viewed by OM=ZEISS–AXIO-CAM-MRC5 and statistically analysed (ANOVA, p ≤ 0.05). Statistical data processing was performed with Microsoft Excel and SPSS 14.0, p ≤ 0, 05. The results obtained by quantitative analysis of the HL indicate that there are differences (p ≤ 0.05) between groups in favour of the samples filled with amalgam 10.37 (± 2.62). **Conclusions:** The restoration material and the use of a dentinal adhesive dimensionally influence the HL size.

Keywords: amalgam, hybrid layer, glass-ionomer

Endodontics

1. A NEW MICRO-INSTRUMENT SYSTEM IN ENDODONTICS FIELD; REVO-S NI-TI

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Introduction: Root canal preparation aims to clean and disinfect the root canals and create a suitable shape to be sealed without iatrogenic events or damage to the integrity of the anatomical structure of the canal.
Materials and methods: Micro-Mega (Basancon, France) developed a new series of NiTi instruments consisting of a series of active blade (without radial lands).These tools perform penetration in the root canals with a snake movement which cleans cut and release residual dentin.The series Revo-S consists of 2 two tools for apical penetration, SC1**:** 25/100, 0.06 taper to 21mm and SC2**:** 20/100, 0.06 taper to 25mm and a tool for total cleaning SU**:** 25/100 0.06 taper to 25mm. The speed is 250-400 rev/min and Crown down technique. A tool of 0.06 taper, 25/100 shapes the apical region.
Discussion**:** The new series of Ni-Ti instruments permit dynamic upward removal of residual dentin, avoiding the collection within the grooves, outperforming compared to other motor systems, small tools. This improves the access into the root canals while reducing the pressure on them.
Conclusions: The new tools of Ni-Ti, based on the asymmetry of the blades, allow the realization of sequences of simpler tools, respond to biological and ergonomic necessities as they offer good cleaning and shape performance as well as simplification and safety allowing the hermetic filling which are of great importance for the achievement of endodontic therapy.

Keywords: endodontic treatment, NiTi

2. PUSH-OUT BOND STRENGTH OF A NEW CALCIUM SILICATE BASED SEALER TO ROOT CANAL DENTINE

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Introduction: To assess the push-out bond strength of three different root canal sealers to the root canals.
Method**:** Thirty extracted single rooted central incisors in similar sizes were selected randomly and distributed to three groups (n=10). All teeth were instrumented using ProTaper rotary instruments. Irrigation was performed using 5 mL of 2.5% NaOCl between each instrument and the smear layer was removed using 5 mL of 17% EDTA. The canal spaces were ﬁlled with three different sealers using a cold lateral condensation technique**:** Group 1**:** AH Plus + gutta percha, Group 2**:** I Root SP + gutta percha, Group 3**:** MTA Fillapex + gutta percha. Three horizontal sections were prepared at a thickness of 1 mm ±0.1 along the apical, middle, and coronal parts of each root. The data were analysed using two-way ANOVA and post hoc with Holm Sidak, with sealer choice (Material) and root section location as the variables. (p=0.05)
Results: According to material selection a statistically significant difference occurred among the groups ($p < 0.05$). I Root SP and AH Plus were significantly better results than MTA Fillapex. Between I Root SP and AH Plus there was no significant difference. AH Plus was significantly superior to MTA Fillapex at middle and apical segments. I Root SP was significantly superior to MTA Fillapex at middle and apical specimens. There was no significant difference among the groups at coronal sections.
Conclusions: Especially at middle and apical sections MTA Fillapex showed lower adhesion to root dentine to the root canal dentine compared to other sealers.

Keywords: endodontic treatment, MTA Fillapex, Push out bond strength

3. EFFECT OF VARIOUS CANAL DRYING MATERIALS ON THE PUSH-OUT BOND STRENGTH OF MTA FILLAPEX AND IROOT SP SEALERS TO THE ROOT CANAL WALLS

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Turkey

Aim**:** The aim of this ex vivo study was to evaluate the effect of various canal drying methods on the bond strength of MTA Fillapex and iRoot SP sealers by using a push-out test design.
Materials and methods: Freshly extracted 90 single-rooted human canine teeth were used. The crowns were removed and the roots adjusted to 15 mm length. Root canals were instrumented with ProTaper NiTi rotary files. During instrumentation, irrigation was accomplished with %2.5 NaOCl and %17 EDTA solutions. After instrumentation, the roots were randomly divided into two groups and four subgroups for each (n=10). Remaining 10 teeth were used as a control group. The groups and subgroups were as following**:** Group A**:** Canals were filled with MTA Fillapex sealer. Group B**:** Canals were filled with iRoot SP sealer. Subgroups A1, B1**:** The samples were left wet before filling. Subgroups A2, B2**:** The samples were dried with only one point before filling. Subgroups A3, B3**:** The samples were dried with paper-points before filling. Subgroups A4, B4**:** The samples were rinsed with alcohol and then dried with paper-points before filling with any sealer. After storing in %100 humidity media, the roots were cut horizontally to obtain 1-mm thick slices from 1, 3 and 5 mm distances to apex. Push-out testing was performed for each slice. Statistical analysis was completed by using Kruskal-Wallis test and with Dunn's test for pair-wise comparison with significance set at $p<0.05$.
Results: Regardless of groups, samples dried with only one point before filling with iRoot SP indicated more bonding than the other groups ($p<0.05$). The bonding strength was as following respectively**:** B2>A2>B3>B1>B4>A1>A4>A3.
Conclusions: The data indicated that wetness/dryness of the root canal depending on the sealer used may affect the bonding of the sealers to the canal walls.

Keywords: push-out, MTA Fillapex, iRoot SP

4. COMPARISON OF THE ROOT-END SEALING PROPERTIES OF DIFFERENT RETROGRADE FILLING MATERIALS

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Introduction: Apical surgery can be performed by apicoectomy and conservative preparation of root-end cavity using a round bur on a high speed handpiece, ultrasonic device or using laser and also filling of root-end cavities with a proper retrograde filling material.
In this study, we aimed to compare of sealing abilities of White MTA and iRoot BP Root Repair Material as used root-end filling materials.
Materials and methods: Thirty extracted single rooted maxillary incisor teeth were used in this study. The crowns were cut at the cementoenamel junction to provide flat horizontal surface. After the root canal preparations with Protaper files (Dentsply/ Maillefer, Ballaigues, Switzerland), apical 3 mm of all teeth were resected with tungsten carbid fissur burs (Meisinger, Neuss, Germany). Their retropreparations were performed with zirconium nitride coated ultrasonic retrotip (ProUltra, Dentsply, Maillefer, Ballaigues, Switzerland) 3 mm in depth with parallel walls. The teeth were divided into two groups. In the first group the root-end cavities were filled with white MTA (ProRoot MTA, Dentsply, Tulsa Dental, Tulsa, Okla), while the root-end cavities of the second group were filled

with bioceramic based root-end filling material (iRoot BP, Vancouver, Canada). Ten days later, the apical leakage for both retrograde filling materials was evaluated with fluid filtration method.
Results: Although White MTA group (0.000051± 0.000040) showed lower leakage than bioceramic based root-end filling material group (0.000092±0.000064) on the tenth day, no statistically significant difference was found between two groups (p>0.05).
Conclusions: Both of the White MTA and bioceramic based iRoot BP can be used as reliable root-end filling materials in terms of leakage in clinically.

Keywords: bioceramic root repair material, MTA, root-end cavity, root-end filling, apical leakage.

5. THE USE OF CONE BEAM CT SCANNER IN ENDODONTICS

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Romania

Introduction: The success of root canal treatment depends on the real understanding of the internal root structure anatomy before initializing any procedure. Also the correct diagnosis is the key of a correct treatment. Unlike the conventional X ray which gives a two dimensional view, the CT scanner can reveal the complete root anatomy.
Case report: A 20 years old patient was referred for evaluation and treatment of 46. On the first conventional x-ray it seemed that the first lower molar had two roots and just two canals. After an additional off centric x-ray a second mesial canal could be visualized. The CT scanner actually revealed the presence of three canals in the mesial root, in some section even 5 or 6 canals, because of the accessory canals and the anasthomosis. The 3DImage identified also a third root in the lower molar. A 24 years old patient was referred for retreatment of the incomplete root canal fillings in the mesial root. The CT scanner revealed the root canal anatomy showing the apical foramina which was placed lateral. The bifurcation of the mesial root could be also visualized. A 28 years old male displayed on the X-ray of 47 no periapical radiolucency. The CT revealed the presence of an abscess.
Conclusions: In difficult cases, Cone Beam CT reveals the diameter and shape of the canal in any cross-section and in any level, with low doses of radiation with just one revolution around the patient for capturing the images. Radiographs tend to make the canals look relatively uniform in shape, the frequent aberrations not being visible. CT is providing axial, coronal and sagittal views for identification of obscure internal root canal anatomy. CT makes accurate diagnosis of periapical lesions possible, provides information about root fractures, root resobtions and bone rebuilding after endodontic treatment.

Keywords: CBCT Scanner, Endodontics

6. EFFECT OF CALCIUM SILICATE-BASED SEALER ON PUSH-OUT BOND STRENGTH OF FIBER POSTS

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Turkey

Introduction: To assess the effect of iRoot SP root canal sealer on push-out bond strength of fiber posts cemented with self adhesive resin cement.
Materials and methods: Forty-eight extracted maxillary incisors were instrumented with the step-back technique and randomly divided into four groups according to the tested sealer (n=12)**:** Group 1, control (only gutta-percha points, no sealer); Group 2, AH Plus Jet (resin-based sealer); Group 3, Endofill (zinc oxide-eugenol based sealer), and group 4, iRoot SP (calcium silicate-based sealer). The root canals were filled with gutta-percha using the cold lateral condensation technique. The teeth were stored at 37 °C and 100% humidity for 1 week to allow the sealers to set and then prepared for 9 mm posts. Fiber posts were cemented with the self-adhesive resin cement Clearfil SA Cement. The specimens were sectioned in the coronal, middle and apical regions, producing three slices of 1 mm thickness. The push out test was performed in a universal machine and failure modes were observed. Data submitted to ANOVA and Tukey test (p = 0.05).
Results: No statistically significant differences were found between the control group, AH Plus Jet and iRoot SP in the coronal, middle and apical regions (P>0.05). The Endofill sealer showed significantly lower bond strength than the other sealers and control group in the three regions (P<0.05). The predominant failure mode was adhesive between the self-adhesive resin cement and dentin.
Conclusions: The calcium silicate-based sealer did not adversely effect on bond strength of fiber posts cemented with self adhesive resin cement.

Keywords: Self adhesive resin cement, Push-out bond strength, iRoot SP, Root canal sealer

7. EFFICIENT ENDODONTIC SEALING - KEY FOR LONG TERM SUCCESS

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Romania

Introduction: The investigations carried out on a great number of patients with chronic dental hotbeds aimed to mark out the results of the endodontic therapy on a longer period of time. This paper wants to outline the weight of the succeses obtained after the radicular treatment of the chronic apical infections, through a study based on an important number of clinical cases, observed on a period of at least two years, by clinical observations and radiologic exams.
Materials and methods: 142 teeth with chronic apical pathology, treated in the Endodontic Department of our faculty, have been followed up in a two years period. Clinical and radiological exams have therefore been made, in order to evaluate the rate of success, considering three

possibilities of root canal sealing**:** underfillings, overfillings and correct fillings.
Results: The results, statistically interpreted, allowed us to outline a few useful conclusions for the efficient combating of the dental infectious hotbeds at any age. There is a high risk (the risk report RR=8.61, p=0.00542) for the apparition of incorrect fillings (under or over- fillings), with a higher rate of failure in the multi-rooted teeth. The under-fillings (risk report RR-14.42, p=0.0000086) appear more frequently than the over-fillings, the latter presenting a lesser risk of apparition (RR=10. 91, p=0.00052)
Conclusions: In order to achieve a correct endodontic treatment, with reference to chronic apical lesions and infectious hotbeds removing, one must keep in mind a few basic advices that constitute the success key in such situations. One of the most important objectives is the preventing of the apical and coronal microleackage by a tight sealing of the radicular space.

KEY WORDS**:** dental infectious hotbeds, root canal sealing, periapical tissues recovery

8. EVALUATION OF ROOT AND CANAL CONFIGURATION OF MANDIBULAR FIRST MOLARS BY CONE BEAM COMPUTED TOMOGRAPHY IN A TURKISH POPULATION

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Aim**:** The aim of this study was to investigate root and canal morphology of permanent mandibular first molars (MFMs) in a Turkish population using cone beam computed tomography (CBCT).
Materials and methods: The samples include 534 CBCT images of MFMs; 80 subjects had unilateral molars and 227 subjects had bilateral molars. The following observations were made**:** (i) root number and morphology, (ii) number of canals per root, and (iii) root canal configuration in each root using Vertucci's classification with additional modifications.
Results: The frequency of three-rooted MFMs was 2.3 %. Two canals were present in 0.4 %, 3 canals in 70.0 %, 4 canals in 28.5 % and 5 canals in 1.1 %. Root canal configuration of the mesial root revealed 1 canal in 0.6 %, 2 canals in 97.4 % and 3 canals in 2.0 % and root canal configuration of the distal root displayed 1 canal in 70.9 % and 2 canals in 29.1 %. The most common canal morphology in the mesial roots was Vertucci type IV (59.4%), followed by type II (33.0 %). The distal roots showed predominantly type I (74.3 %), followed by types II (11.9 %) and IV (9.7 %).
Conclusions: The root number, morphology and canal morphology of Turkish MFMs showed different distribution. CBCT is an exciting and clinically useful tool in studying root canal morphology.

Keywords: mandibular first molars, cone beam computed tomography, root and canal configuration

9. COMMON BIOFILM FEATURES OF ENDO-PERIO LESIONS: A CLOSE GLANCE

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Romania

Biofilms are a constant presence in different non-clinical and clinical environments, on inanimate and on vital surfaces, and have been studied extensively using a wide range of microscopy techniques. Among them, SEM proved to be an invaluable tool for ultrastructural investigation of oral biofilms, of their peculiar habitat, of their support tissues and materials and of their byproducts. Conventional SEM require a complicate procedure, consisting in fixation, dehydration and coating with conductive materials (Au, Pa, C). The presentation focuses on description of the morphology of the biofilm of the endodontic-periodontal continuum on the root surfaces of teeth with combined infections. Teeth were prepared for SEM according to a simplified histologic sample preparation (washing with saline solution, fixation in modified Karnovsky solution and dehydration in alcohol series) and a low-vacuum examination method, using the INSPECT S microscope (FEI, Hillsboro, OR, USA) at 80-250Pa and 15kV. Various images of typical biofilm features, as the glycocalix, the bacterial morphotypes (cocci, bacilli, filaments, spirils), the debris, the extrinsic microscopic foreign bodies are described, along with typical adjacent ultrastructures, as the cementum with its resorbtive lacunae, periodontal fibers, calculus and hematic products (clots, isolated blood cells etc.). The low-vacuum inspection of root surfaces involved in combined endo-perio lesions resulted in electrical charge-free images of the non-conductive or heavily-contaminated biofilm-covered surfaces. Established biofilms were found in about two-third of the samples, consisting in cloud-blanket-like glycocalix structures, harboring predominatly coccoid forms, while bacilli and filaments were rather seldom noticed. Qualitative and semi-quantitative comparisons were made between topographical areas of the apex-root continuum. The low-vacuum SEM method avoids the sputtering of the samples, is simple and cost-saving, resulting in excellent biofilm images.

Keywords: biofilm, endo-perio lesions, infection, SEM

Periodontology

1. BASELINE RADIOGRAPHIC DEFECT ANGLE AS A PROGNOSTIC INDICATOR OF REGENERATIVE PERIODONTAL SURGERY

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Romania

The aims. The aim of this study was investigate whether an association exists between baseline radiographic defect

angle and treatment in periodontal regenerative surgery.
Materials and methods: The study was realized on 30 patients who had pair test sites and control sites, with pockets ≥ 6 mm and infra-osseous defects with depth ≥ 3 mm measured by probing and X-ray evaluation radiographic defect angle was ≤ 22° than when it was ≥36°.
Results: The average values of the clinical attachment level (CAL) in the test sites were 1.8 mm at 6 months and 2.1 mm after 12 months, for the group with EMDOGAIN®, 1.1 mm at 6 months and 1.2 mm at 12 months for the control group. The radiographic gain was ascertained after 12 months
Conclusions: This study showed that there was a significant association between baseline radiographic defect angle and CAL gain of ≥ 4 mm after regenerative surgery with EMD is used in narrow (≤ 22°) intrabony defects suggests that the baseline radiographic defect angle might be used as a prognostic indicators of treatment outcome.

Keywords: periodontal regenerative surgery, baseline radiographic, defect angle

2. RADIOGRAPHIC ASPECTS OF PERIODONTAL DISEASE IN PATIENTS WITH ISCHEMIC CEREBROVASCULAR ACCIDENTS

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Romania

Introduction: Links between periodontal diseases and systemic diseases have been well documented by epidemiological studies. Recently, research has shifted to elucidating the biologic mechanism for a causal relationship. Cardiovascular diseases are one of the main causes of morbidity and mortality in the European countries, including Romania. One focus of interest is atherosclerosis, the underlying event of cardiovascular diseases due to its serious health impact. Over the last several years, many studies on the relationship between oral infections, especially periodontitis and cardiovascular diseases were published (Oikarinen, 2009; 2007; Kinane, 2008). Periodontal disease has been found to be a potential risk for coronary heart disease. However, its association with cerebrovascular accidents is much less studied. The aim of this study was to analyze the radiographyc aspects of marginal bone loss on orthopantomographs (OPGs) and a possible association between periodontitis and cerebrovascular accidents.
Materials and methods: 103 patients with history of cerebrovascular accidents diagnosed by specialist doctors (neurologist) were selected. Several parameters were evaluated in the dental office according to the health questionnaire and the recommended blood tests (cholesterol, triglycerides, complete hemoleucogram, C-reactive protein etc.). The same examiner assessed the odontal and periodontal status of each patient on the OPGs. We analyzed irredeemable teeth, periapical lesions, interradicular lesions, 4-5mm bone loss from the enamel-cement junction (ECJ) and >6mm bone loss from the enamel-cement junction (ECJ).
Results: The study group presented high percents of irredeemable teeth (12%), teeth with periapical lesions (>3 mm; 3%), interradicular lesions (10%), 4-5 mm proximal bone loss (11%) and >6 mm bone loss (19%).
Conclusions: The present study confirms the existence of correlations between endodontic infections, periodontal infections and cerebrovascular accidents; idea supported by A. R. Pradeep (2010) and Pekka Ylöstalo (2010) and justified by the influence of permanent discharge of proinflammatory factors (cytokines, Il-1, TNF-, etc.) from the oral cavity into the bloodstream, contributing with other factors (cholesterol, triglycerides, etc.) to the appearance and evolution of ischemic cerebrovascular accidents.

Keywords: radiography, periodontal disease, cerebrovascular accidents

3. BIOCHEMICAL CORRELATIONS BETWEEN CAPILLAR AND SULCULAR BLOOD GLUCOSE VALUES IN ORDER TO ASSESS LEVELS OF THE METABOLIC STATUS

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Romania

Introduction: Gingival sulcular fluid filtered at the gingival sulcus has long been studied as mean of early diagnosis of periodontal degradation. Diabetes mellitus, the most prevalent metabolic disorder has a major impact on the population, both on systemic and periodontal level. The main objective of this study was to evaluate in a safe, fast and noninvasive manner the patients diabetic status by assessing sulcular blood glucose level during periodontal examination.
Materials and methods: Laboratory investigations examining the blood glucose level within the capillaries (CBGL) and gingival sulcus (SBGL) were performed upon 30 non-diabetic patients and 30 diabetics, both with moderate to severe periodontitis, randomly selected from the patients undergoing routine periodontal clinical examinations. Statistical analysis was performed using Pearson correlation coefficient and t- student test.
Results: Our study allowed comparative evaluation of the blood glucose level in the capillaries and sulcus, in order to find out whether SBGL determination in the dental office, would be an accurate and fast meaning of glycemic status preliminary investigation. The results in mg/dl recorded mean capillary (MCBG) and sulcus (MSBG) blood glucose values from all samples of 190.57 and 168.6 respectively. MCBG level was 269.73 in the diabetic group and 111.4 in the systemically healthy group, while 240.27 MSBG in diabetics and 97.03 in non diabetics were registered. Moreover, there was a high correlation between MCBG and MSBG level in patients with various degrees of periodontal impairment.
Conclusions: Considering the good correlation between

CBGL and SBGL and the evidences that almost half of the diabetics remain undiagnosed, sulcular blood test may become an appropriate, fast, cheap and reliable method for potential diabetic patients identification during routine dental visits. Early recognition and manipulation of the systemic disease by targeted modulation of the metabolic impairment could represent one of the premises in the diabetic patient care.

Keywords: periodontitis, diabetes mellitus, sulcular blood glucose level, glycemic status preliminary investigation

4. THE EFFECT OF FEMALE SEX HORMONE LEVELS ON PERIODONTAL HEALTH IN PREGNANCY

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FYROM

Pregnancy is probably most important time of women's life. Endocrine imbalance and hormonal fluctuations in different periods of life are known examples of systemic conditions, which lead to undesired effects on periodontal health. The most common oral manifestation of elevated levels of ovarian hormones, as seen in pregnancy, is an increase in gingival inflammation with an accompanying increase in gingival exudate. Hormonal fluctuations and endocrine disbalance affect the periodontal tissues directly, modify the tissue response to local factors and produce anatomic and histological changes in the gingiva that may favor plaque accumulation, alter the microenvironment of the oral bacteria so as to promote their growth and shifts in their populations. With purpose to follow oral and periodontal health, we examine 30 patients in 3rd trimester of pregnancy and take anamnesis data and periodontal index status. We evaluate periodontal health through clinical examination of periodontal indices**:** Plaque index, Calculus index, Gingival index, index of gingival enlargement, gingival bleeding index, CAL and luxation index. Also we collected sera and saliva from these patients to examine levels of ovarian hormones**:** progesterone and estradiol E2. Serum and salivary concentrations of sex hormones- progesterone were evaluated with RIA methods, while serum and salivary concentrations of estradiol were evaluated with ELISA methods. Our results revealed presence of high values of these hormones with an accompanying increase of pregnancy gingivitis which suggested need of accentuated oral-hygiene procedures and oral health care before and in period of pregnancy.

5. PREVALENCE OF LOCALIZED AGGRESSIVE PERIODONTITIS IN YOUNG TURKISH POPULATION IN KONYA. PILOT STUDY

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Introduction: Localized aggressive periodontitis (LAgP), is a disease of the periodontium occurring in otherwise healthy adolescents, and the degree of periodontal destruction manifested is extensive with respect to the low levels of plaque and calculus typically observed in chronic periodontitis. The purpose of this study was to investigate the periodontal treatment needs and prevalence of localized aggressive periodontitis among students aged 14 to18 years at public schools in Konya.
Materials and methods: A total of 362 students (178 females and 184 males) participated in the study. All students were examined at their schools and their mouths coded according to the recommendations of the Community Periodontal Index of Treatment Needs (CPITN). All individuals were examined in their classrooms while seated in an upright chair, using sun light for illumination. The mouth was divided into sextants and coded according to the CPITN. One index tooth was examined in every sextant; the index teeth were 16, 11, 26, 36, 31, and 46. Probing depths and clinical attachment level measurements were made around the mesio-buccal, disto-buccal, mesio-labial, and disto-labial aspects of each tooth. Clinical diagnosis of localized AgP was performed according to the 1999 International World Workshop in Periodontology criteria as previously described.
Results: Among the 362 students screened, 2 (one female and one male) were diagnosed with localized AgP. Of 2172 sextants examined, 889 required scaling, and 5 required scaling and further complex treatment.
Conclusions: The prevalence of localized AgP was 0.5%, with a female/male ratio of 1**:** 1 in young Turkish population in Konya.

Keywords: Aggressive periodontitis; diagnosis; epidemiology; prevelance

6. MANAGEMENT OF THE ANTERIOR ESTHETICS

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USA

Introduction: The periodontal-restorative team is in charge nowadays to provide the esthetic procedures that today's sophisticated patient population has come to expect. Combining the health, function and esthetics is the only way to satisfy the patient needs. The esthetically oriented restorative clinician, during the diagnosis, will encounter 3 primary clinical disorders**:** dental disease/ occlusal disorders/ esthetic disharmonies.
Changes in the width of the teeth will affect the amount of interproximal space, the proportion of the adjacent teeth, 3D location within the arch.
Changes in the length of the teeth will affect**:** the incisal edge position, the resultant horizontal-vertical overlap between the maxillary and mandibular teeth, location of the gingival margin and the degree of the gingival display. Therefore, precise measurement during treatment is imperative. Changes in any one of the dimensions should be quantified, as the amount of change will determine the nature of the treatment to be rendered.
Materials and methods: Following a certain protocol and

respecting all the sequences of the treatment plan, will transform some complicated cases in ones that are very easy to handle over. Using a certain armamentarium consisting of digital calipers, millimeter rulers and periodontal probes will enable us to diagnose and correct tooth size discrepancies.
Results: The clinical examples presented demonstrate the applicability of the protocol in managing the anterior esthetics for both standard and non-standard tooth sizes.
Conclusions: Dental and gingival aesthetics act concomitantly to provide a balanced harmonious smile. A defect in the surrounding tissue can not be compensated by the quality of the dental restoration and vice versa. The complex cases presented that include restorative space management cases type, in which maybe just the orthodontic therapy alone can address it are successfully solved following this protocol.

Keywords: tooth proportion, esthetics, dimension, size

7. SHORT-TIME EFFECT OF SYSTEMIC METRONIDAZOLE VS. AZITHROMYCIN IN NON-SURGICAL TREATMENT ON CHRONIC PERIODONTITIS

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Introduction: Black Pigment Producing Rods (BPRs) are of important role in the pathogenesis of the periodontal disease. Metronidazole (MET) has been for a long time the antibiotic of choice in the treatment of BPRs-related refractory severe periodontitis. However the use of MET relates to many side effects, requires a relative long time of medication (7- 10 days) and interacts with alcohol. As a systemic alternative antibiotic Azithromycin (AZM) has been used in the treatment of refractory periodontitis associated with BPR infections. It is administrated for 3 days, what possibly improves the patient's compliance to medication regime. The purpose of this study was to compare the clinical results of the periodontal therapy in combination with systemic perioperative AZM or MET.
Materials and methods: 50 patients with refractory localised severe chronic periodontitis and BPGs higher than 10 % of the total bacterial load were selected and divided in two groups. Patients infected with Aggregatibacter actinomycetemcomitans and patients with diabetes mellitus were excluded from the study. The first group used MET 3x 400 mg daily for 10 days after full-mouth scaling and root planning (FMSRP). The second group started two days before FMSRP with 500 mg AZM daily for a total period of 3 days. The MET group was in average 55.1 years old (SD 9.5 years), had 22.8 teeth (SD 4.3) and an average radiological attachment level loss (RAL) of 33,5 % (SD 8.8) at baseline. 12 % of them were female and 37 % smokers. The AZM group was in average 59.2 years old (SD 7.0 years), had 21.2 teeth in average (SD 5.4) and RAL of 35.7 % (SD 11.9.). 25 % were female and 30 % smokers. Clinical parameters Pocket Depth (PD), Attachment Level (AL) were evaluated at baseline and 6 weeks after FMDSRP from the same clinician.
Results: Both treatments resulted in a reduction of PD. Adjunctive systemic AZM group reduced 5- 6 mm pockets by 9.1 % and deeper pockets by 5.4 %. 7 teeth were lost in 6 patients. The respective reduction was in the MET group was 16.6% for the 5-6 mm pockets, 4.2 % for deeper pockets and 11 lost teeth in 8 patients. Adverse gastrointestinal drug reactions were only observed in the MET group.
Conclusions: The use of AZM or MET in combination with FMSRP during non-surgical periodontal therapy had almost the same clinical effect on the reduction of deep periodontal pockets in refractory chronic periodontitis. Adverse drug reactions for MET, its longer time of intake and its interaction with alcohol, make the combination of AZM with FMSRP to a short time, easy to administer, sure and attractive alternative for the adjunctive antibiotic treatment in refractory chronic periodontitis with BPR infections and without detection of Aggregatibacter actinomycetemcomitans.

Keywords: Azithromycin, Metronidazol, Black Pigment Producing Rods, refractory chronic periodontitis.

8. ANALYSIS OF INTERLEUKIN-2 -330 AND +166 AND INTERLEUKIN-12B -1188 GENE POLYMORPHISMS IN RELATION TO CHRONIC PERIODONTITIS

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FYROM

Background and objective: Interleukin-2 is a proinflamatory cytokine which mediates the differentiation of B lymphocytes, stimulates macrophages and natural killer cells and osteoclast activity. Interleukin-12 has an important function in the promotion of Th1 response and optimal antibody reaction. Promoter polymorphisms of the interleukin-2 (IL-2) gene have been associated with altered interleukin-2 production and identified as prognostic markers for various infectious diseases. The Taq 1 polymorphisms for interleukin-12 (IL-12) gene in the 3` untraslated region (UTR) at position 1188 was found to be functionally relevant and cause differences in the immunoregulatory activity of its cytokine molecul. The aim of this study was to evaluate two polymorphisms at positions -330 (T-G) and +166 (G-T) of IL-2 and IL-12B-1188 (A-C) gene polymorphism in patients with generalized chronic periodontitis in comparison with periodontitis-free controls in Macedonian population.
Materials and methods: The study population consisted of 92 unrelated subjects with chronic periodontitis and 286 healthy controls. Cytokine genotyping was performed by polymerase chain reaction with sequence-specific primers. PCR-SSP (Heidelberg kit) for the alleles and genotypes of IL2 -330, IL2+160 and IL-12B-1188. Frequencies of IL2 haplotypes and the haplotype zygotes were also examined. The population genetics analysis package

(PyPop) was used for analysis of the cytokine data for this report. Comparisons of different alleles, genotypes, haplotypes, and haplotype zygosity for two groups were tested by Pearson's p-value. Crude odds ratios (OR), as estimates of the relative risk, were calculated with 95% confidence interval (CI).
Results: Significant associations were detected between subjects with periodontitis and**:** cytokine genotypes IL2 -330/G**:** G; IL2 -330/G**:** T and cytokine genotypes IL-12B-1188 /A**:** C and cytokine haplotype zygotes IL-2/GG**:** GG, IL2/GG**:** TG until IL-2/GT**:** GT was detected only in periodontitis patients.
Conclusions: Cytokine polymorphism on the IL-2 and IL-12 genes appears to be associated with susceptibility to chronic periodontitis in Macedonians.

Keywords: chronic periodontitis, gene polymorphisms, IL-12, IL-2

9. COSMETIC DENTISTRY APPLIED ON THE FRONT TEETH (CASES OF GINGIVOPLASTY)

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Greece

Introduction: While traditionally dentistry focuses on oral hygiene and preventing, diagnosing and treating oral disease, cosmetic dentistry focuses on improving the appearance of a person's smile. Gum contouring, also known as gum reshaping, is a cosmetic form of dental treatment used to improve the general look of a person's teeth. It is primarily used in cases where the individual has what is commonly known as 'gummy smile'. This is a condition in which the gums cover too much of the teeth, usually the front teeth.
Aim: Gum contouring is a procedure which is most commonly done through the use of a scalpel. However, technological advances have seen special laser devices emerging in the treatment of 'gummy smile'. The scalpel or laser will be used to trim away at any excessive gum overlying the teeth. The aim of the research is the presentation of surgeries on the soft tissues (gingivoplasty for hyper plastic gingival, gingivoplasty for crown lengthening,) and the postoperative situation of the patient.
Method: The research was done in the dental clinic of GENERAL HOSPITAL OF WEST ATHENS. The surgery was done with diode laser, of 980nm wavelength. This is a quick and often painless treatment. The scalpel would make the process slightly longer, but the laser has the added bonus of being able to seal blood vessels during the procedure.
Results: This is a treatment that can work to improve the smile and self-confidence. The healing process is quick and simple, but will take slightly longer if a scalpel is used. On the other hand the use of laser in dental practice gives us a lot of benefits. A number of them are listed bellow**:** a blood free and clear field of operation, no postoperative bleeding, no suturing, sometimes no anesthesia is needed, shorter appointments, increased wound healing.

Keywords: gingivoplasty

10. POLYMERASE CHAIN REACTION (PCR) IN EARLY DIAGNOSIS OF PERIODONTITIES

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Introduction: Periodontal disease represents the most frequent inflammatory condition with destructive characteristics in human pathology. They are initiated by the microorganisms from accumulated dental plaque on the tooth surface from the neighboring soft periodontal tissues (superficial periodontium). It is established that endotoxins and exotoxins produced by parodontogenic bacteria *Actinobacillus actinomycetemcomitans, Prevotella intermedia, Treponema denticola, Porphyromonas gingivalis, Tannerella forsythensis (Bacteroidis forsythus)* and others, determine inflamatory period and gingival lesions with alveolar process. The use of biological-molecular diagnosis methods and especially the Polymerase Chain Reaction (PCR) or genic amplification reaction for estimation of parodontogenic microbes and assement of periodontal chronic disease in its early stages with future individual treatment scheme at initial stage of complex treatment needed.
Materials and methods: In our study 47 patients with a gender ratio of 32 females and 15 male, with ages between 20 and 60 years diagnosticated with periodontal disease of various degrees. The new system used for the most important and aggressive parodontogenic bacteria by the genetic code – ADN. (*Actinobacillus actinomycetemcomitans, Prevotella intermedia, Treponema denticola, Porphyromonas gingivalis, Tannerella forsythensis (Bacteroidis forsythus*), by the means of polymerase chain reaction (ADN test), sterile absorbents, transport containers for the prevelated probes – Ependorf which is consisted of 500 mkl of sterile physiologic serum.
Results: 38 patients including 27 female and 11 males were depicted all 5 parodontogenic microorganisms, 7 patients with 4 type of microorganisms, different by structure, and only 8 patients were depicted with the negative qualificative Prevotella intermedia and Treponema denticola correspondingly.
Conclusions: Taking in mind the fact that this bacteria are anaerobic (gram -) and by the usual bacteriological methods we can not depict them, the method of polymerase chain reaction (ADN test) gives us the possibility of finding the early periodontal chronic disease, especially its aggressive forms and not less important elaboration and application of individual treatment scheme much earlier before the destructive process in the marginal sustaining periodontium begin.

11. CLINICAL COMPARE OF ENAP AND ELECTROSURGERY IN CHRONIC MARGINAL GINGIVITIS

Eda Kermen, Didem Ozkal, Recep Orbak

Turkey

Introduction: Chronic gingivitis is the most common periodontal infection among children and adolescents.These may include plaque induced chronic gingivitis (the most prevalent form), steroid hormone related gingivitis, drug influenced overgrowth, and others. It is characterized by inflammation of the marginal gingiva without detectable loss of bone or connective tissue attachment.The initial clinical findings in gingivitis include redness and swelling of marginal gingiva and bleeding upon probing.As the condition persists, tissues that were initially edematous may become more fibrotic. Gingival margins, normally knife-edged in contour,may become rolled and inderdental papillae may become bulbous and enlarged.Probing depths may increase if significant hypertrophy or hyperplasia of the gingiva occures.
Case report: A 14 year old male patient came to the Department of Periodontology with the complaint of swollen and bleeding gingivas.The patient was undergoing fixed orthodontic treatment.Clinically, patient was in good health, had a poor oral hygine, plaque accumulation, pseudopockets and bleeding on probing. Interdental papillaes form was rolled. In this case, initially oral hygine practice was shown.After initial treatment, gingivectomy was planned to the patient,and ENAP to maxillary gingivas, electrosurgery to mandibular gingivas were applied.
Conclusıon**:** Plaque induced chronic gingivitis is commonly found in young children and can be managed by mechanical removal of palque and high levels of oral hygiene. But after initial treatment; if there are stil pockets depth on probing and unesthetic form in the presence of gingivas, gingivectomy or gingivoplasty can be performed in different ways. Some investigators report no significant differences in gingival healing after resection by electrsurgery and resection with periodontal knives but other researchers find delayed healing, greater reduction in gingival height and more injury after electrosurgery. In our case, both technique eliminated the pseudopockets and provided the original contours of the gingivas.

Keywords: chronic gingivitis, ENAP, electrosurgery

12. MAINTENANCE OF PERIDENTAL AND PERIIMPLANT CELLS REGENERATIVE CAPACITIES

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Romania

All cells are characterized by a uniform vibration maintained by natural electromagnetic fields. Any modification of vibrational patern generates disfunction which reduces physiologic regenerative capacities.
Any shield for electromagnetic field will reduce the physiologic capacity of cells to react in case of any aggressions (occlusal, alimentary, nicotine). In oral cavity dental plaque is the most common shield. Reduction of dental plaque proved to be inefficient nowadays and the obvious conclusion is the only chance to prevent tissue destructions is the artificial electromagnetic field applied with regularity using electronic devices. This device is patented by the author and will be presented during the conference.
The second important aspect to be respected is to avoid excessive occlusal forces during mastication. The classical technique used today proved to be unreliable and the selective grinding is proved to be blind. A new software technique is presented by Tekscan Boston in order to offer objective measurements for intensity of occlusal forces on each teeth at any 0,0003s in excentric and centric movements. The use of this unique possibility to measure objective in order to reduce the time when the masticatory muscles are contracted between 2 points of stability will allow us to reduce masticatory muscular spasms and to decrease parafunctional activity which could generate fast resorbtion around teeth and implants.
The use of above mentioned electronic devices combined with correct oral hygiene give dentist a new tool for preventing tissue resorbtion around teeth and implants.

13. RELATIONSHIP BETWEEN CARDIO-VASCULAR DISEASES AND FOCAL DENTAL DISEASE

Mitu F
Romania

The impact of dental inflammatory diseases upon the progression of atherosclerosis has been studied for more than 20 years. Periodontal disease can increase the risk of ischemic heart disease with 20%, and the relation has been demonstrated also for stroke and peripheral disease. The mechanisms involved in the progression of atherosclerosis by the periodontal diseases are not well known. Chronic infection with Chlamydia pneumoniae, H pylori, and cytomegalovirus are supposed to stimulate the release of inflammatory cytokines (C reactive protein, TNF alfa, interleukins). Actual dates are still insufficient to confirm the relationship and supplementary studies are needed. The atherosclerotic cardiovascular disease is multifactorial, and infection and inflammation are recognized risk factors. The oral cavity is a source of infection that initiates and maintains a chronic inflammation status, and the correction of local infections may contribute to cardiovascular health.

14. THE RELATION OF RHEUMATOID ARTHRITIS TO PERIODONTAL DISEASES

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Greece

Introduction: Rheumatoid arthritis (RA) is an autoimmune disease that causes chronic inflammation of the joints with strong pain and dysfunction of the joints. In many resource it is obvious the relation of the rheumatoid arthritis to the periodontal disease. The relation of the periodontal disease to the rheumatoid arthritis is the bad oral hygiene that the patients have since it is difficult to follow a correct

oral hygiene because of the pain on the joints.
Aim: The research was done on the GENERAL HOSPITAL OF WEST ATHENS, and we used patients that they filled a questionary. We examined 30 patients with rheumatoid arthritis and 30 healthy patients. We examined the oral cavity of the patients, and we measured the depth of the periodontal pocket and the gingival recess.
Results: The result showed that the patients with rheumatoid arthritis have more chances to appear with periodontal disease compared to the healthy patients.
This results where evaluated together with the answers about the life style of the patients, the use of nicotine, the age, the sex and the educational level of them. We concluded that the periodontal disease was more intense in patients with rheumatoid arthritis but we think that it was not the rheumatoid arthritis the only reason for it.
Conclusion: The results showed that the bad oral hygiene is not the only reason for the relation between rheumatoid arthritis and gingivitis and there are other reasons that might be related to the periodontal disease. We referred the periodontal patients to periodontologist and we provoked them to follow good oral hygiene with tooth brush and dental floss.

Keywords: Rheumatoid arthritis ,periodontal disease

15. RELATIONSHIP BETWEEN PERIODONTITIS AND METABOLIC PARAMETERS

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Inflammation leads to changes in lipid metabolism aimed at decreasing the toxicity of a variety of harmful agents and tissue repair by redistributing nutrients to cells involved in host defense. Acute phase response, mediated by cytokines, preserves the host from acute injury. When this inflammation becomes chronic, it might lead to chronic disorders as atherosclerosis and the metabolic syndrome.
Meta-analyses have shown the association of periodontal diseases and cardiovascular diseases. There is growing evidence that suggests an association among periodontal diseases and the risk factors for cardiovascular disease, including obesity and dyslipidemia in addition to diabetes mellitus. Various interventional studies with non-surgical periodontal treatment have revealed that elimination of periodontal inflammation and infection cause decrease in hyperlipidemia as consequence of moderate decrease in systemic inflammatory parameters.
In this presentation, the findings from the epidemiological and interventional studies done in Ankara University for the relationship between periodontitis and systemic inflammatory and metabolic parameters will be presented and discussed in comparisons with the results from the relevant literature.

Pedodontics / Orthodontics

1. ETHNIC DIFFERENCES IN DENTOFACIAL RELATIONSHIPS OF TURKISH AND SAUDI ARABIAN YOUNG ADULTS WITH NORMAL OCCLUSIONS AND WELL-BALANCED FACES

Tancan Uysal, Ahmet Yagci, Esra Ekizer, Abdullah M. Aldrees
Turkey

Objective: The aims of the present study were (1) to determine ethnic differences in craniofacial dimensions between Turkish and Saudi Arabian populations and (2) to identify possible gender differences between males and females, based on a sample of untreated subjects with normal occlusions and well-balanced faces.
Materials and methods: A total of 163 cephalometric radiographs were traced and evaluated to compare untreated adults of Turkish and Saudi Arabian ethnicity. Turkish group was comprised of 86 subjects, 45 females with a mean age of 20 years and 10 months and 41 males with a mean age of 21 years and 6 months. Saudi Arabian group was comprised of 77 subjects, 39 females with a mean age of 20 years and 6 months and 38 males with a mean age of 22 years and 4 months. For statistical evaluation, independent-samples t-test was performed.
Results: The Turkish sample had a more retrognathic maxilla and mandible, a more vertical direction of facial development and more retrusive lips. Distinctive ethnic differences were found in craniofacial structures between Turkish and Saudi Arabian young adults.
Conclusions: It is appropriate to consider these aesthetic differences when a Turkish or a Saudi Arabian patient is being evaluated during routine diagnosis and treatment planning.

Keywords: Cephalometrics, Esthetics

2. CONE-BEAM COMPUTED TOMOGRAPHY EVALUATION OF RELATIONSHIP BETWEEN TONGUE VOLUME AND LOWER INCISOR IRREGULARITY

Tancan Uysal, Ahmet Yagci, Faruk Izzet Ucar, Ilknur Veli, Torun Ozer
Turkey

The aim of this study was to evaluate the relationship between the tongue volume and lower incisor irregularity, using cone-beam computed tomography (CBCT); and to identify the possible gender differences. CBCT images of 60 patients were selected from 1400 sets of images in the database. Tomography was carried out using iCAT® (Imaging Sciences International, Hatfield, PA, USA) and segmentation was carried out by using Mimics 10.1 software (Materialise NV, Leuven, Belgium). The tongue volume was calculated by using the volume of the voxels from the scan and the number of voxels selected for a given mask. Lower incisor crowding was measured with the Little irregularity-index and divided into three groups: mild, moderate and severe. Independent samples t-test,

analysis of variance and Tukey test were used at $p<0.05$ level. Pearson correlation coefficients and linear-regression model was calculated to determine the correlation between tongue volume and incisor irregularity. No significant gender dimorphism was found for the tongue volume (males**:** 28.13±8.54cm3; females**:** 31.02±9.75cm3). According to ANOVA, there was statistically significant difference in the tongue volume measurements among subjects with different levels of irregularity. Tukey analysis indicated that mild irregularity group (33.97cm3) showed higher values for tongue volume than severe irregularity group (26.60cm3) ($p=0.025$). The relationship between incisor irregularity and tongue volume was evaluated for both genders and significant inverse correlation ($r=-0.429$; $p=0.029$) was determined between mandibular incisor irregularity and tongue volume, in males. In female group, no significant correlation was determined between tongue volume and incisor irregularity.

Keywords: Cone-beam computed tomography, Tongue volume, Incisor irregularity

3. INFLUENCE OF ORTHODONTIC TREATMENT ON ORAL STREPTOCOCCI

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Romania

Introduction: Orthodontic appliances, both fixed and removable, impede the maintenance of proper oral hygiene and result in plaque accumulation. Many studies report that changes in the dental flora occur after starting the orthodontic treatment. The aim of this study was to evaluate the influence of the orthodontic treatment on oral streptococci.
Materials and methods: 40 patients, aged 7-17, who were going to start the orthodontic treatment, had been selected. Group I was formed by the 40 patients before wearing any orthodontic appliance (T0), group II was represented by 34 patients from the initial group, 3 month after the beginning of the treatment (T1) and group III was formed by 31 patients after 6 month of treatment (T2). Coronary plaque was collected. For the isolation of the bacteria, growth mediums were used**:** Todd Hewitt broth and Columbia agar. The serial dilution method was used to determine the concentration of the bacteria (CFU/sample) from the aerobic flora. Conventional methods were used for the identification of the species and the isolated streptococci strains have been preserved for further study using molecular methods.
Results: The oral streptococci isolation percentage in group II has increased from 10% to 14.7% for S. mutans, from 22.5% to 32.3% for S.oralis, from 37.5% to 41.2% for S.salivarius and decreased from 12.5% to 11.8% for S.sanguis. In group III, a lower isolation rate was observed, comparing to group II, for S.mutans (9.7%), S.oralis (25.8%) and S.salivarius (32.2%) and a higher rate for S.sanguis (12.9%). The concentration of the aerobic bacteria (CFU/sample) has increased from group I to group II and decreased from there to group III.
Conclusions: Oral streptococci isolation rate and aerobic bacteria concentration increased during the first three months of orthodontic treatment and then decreased after 6 months, reaching values close to those recorded before treatment.

Keywords: orthodontic treatment, oral microbial flora, streptococcus

4. COMPARISON OF AIRWAY SPACE USING 2D LATERAL CEPHALOMETRIC AND 3D CBCT IMAGES RECONSTRUCTED FROM A VOLUMETRIC RENDERING PROGRAM

Ulas Oz, Ayse Isil
Turkey

Objective: The evaluation of airway was performed using several diagnostic methods such as; nasal resistance and airflow tests, nasoendoscopy, lateral cephalometry and 3-dimensional imaging. Of these tests, there is no consensus on the gold standard procedure for diagnosing posterior airway obstruction. Recent studies showed that 3D imaging especially using Cone beam CT (CBCT) will be considered to be gold standard in the future. Thus, the purpose of this study was to compare the 2D and 3D CBCT imaging for the evaluation of nasopharyngeal airway space.
Materials and methods: Three-dimensional airway volume and cross-sectional areas of 24 patients were measured by using CBCT (Newtom, QR s.r.l., Verona, Italy), and 2-dimensional lateral cephalograms were created and analyzed (Vista Dent OC). Airway areas, volumes, and cross-sectional measurements were compared. Kruskall-Wallis H and Pearson Chi square test was used for age, sex gender and location difference ($p<0,05$).
Results: The results showed considerable variability in the airway volumes of patients with relatively similar airways on the 2D lateral cephalometric radiographs. There was also statistically significant differences in the following parameters**:** height of the posterior nasal plane, ($p<0,05$).
Results: also revealed that the smallest airway on the lateral cephalometry had the smallest volume in 3D imaging.
Conclusions: CBCT is a powerful radiography technique for detecting airway area with less ionizing radiation than CT with inherent 3D information.

Keywords: CBCT, airway, lateral cephalometics, children

5. EFFECTS OF PREHEATING ON SHEAR BOND STRENGTH

Abdullah Ekizer, Sabri Ilhan Ramoglu, Melike Busra Alan, Faruk Izzet Ucar, Serdar Usumez
Turkey

Objective: The aim of this in vitro study was to assess the null hypothesis that preheating of two different adhesives does not significantly alter their shear bond strengths

(SBS) of orthodontic brackets and to change failure site locations.

Materials and methods: Transbond XT adhesive (TXT) (3M Unitek, Monrovia, California, USA) and Light Bond (LB) (Reliance Orthodontic Products, Itasca, III) were used as bonding orthodontic brackets. Eighty freshly extracted human maxillary premolar teeth were randomly divided into four equal groups**:** Group I**:** preheated TXT, group II**:** TXT, group III**:** preheated LB, group IV**:** LB. Calset (AdDent Inc.) was used to preheat the composites to 54°C. The brackets in each group were bonded to the tooth substrates, and the teeth were then stored (37⁰C, 24 hours). The SBS of these brackets were measured and recorded in megapascals (MPa). Adhesive remnant index (ARI) scores were determined after bracket failure. For statistical analysis, two-way analysis of variance and ANOVA were used to compare groups. Fracture modes were analyzed by chi-square test.

Results: The SBS values were detected as follows; group I, (mean**:** 186.97 ± 46.67 MPa), group II (mean**:** 172.5 ± 55.61MPa) group III, (mean**:** 192.67 ± 76.22 MPa) and group IV (mean**:** 222.63 ± 72.57 MPa). Significant difference was found between the groups 2 and 4 ($P < 0.05$). In general, a greater percentage of the fractures were adhesive (54 per cent).

Conclusions: The SBS values of all groups might be clinically acceptable, and orthodontic brackets can be successfully bonded with preheated Transbond XT and Light Bond.

The null hypothesis could not be rejected. SBS of test adhesives were not affected by the preheating significantly. SBS of LB composite was significantly higher than TXT composite.

6. NATURAL HEAD POSITION AND LOWER INCISOR IRREGULARITY. IS THERE A RELATION?

Ahmet Yagci, Tancan Uysal, Abdullah Ekizer, Filiz Yagci, Turkey

The aim of this study was to evaluate the relationship between the dynamic measurement of natural head position (NHP) and lower incisor irregularity using an inclinometer device and a portable data logger; and to identify possible gender differences. Totally, 103 plaster models and dynamic NHP measurements formed the sample of this study. The sample included 51 male (mean age**:** 14.20±2.51 years) and 52 female (mean age**:** 15.02±2.67 years) subjects. An inclinometer and a portable data-logger were used to collect the dynamic NHP data. Lower incisor irregularity was measured with the Little irregularity-index. Mann-Whitney U and Kruskal-Wallis rank tests were used at $p < 0.05$ level. To evaluate the correlation between NHP and lower incisor irregularity; Pearson correlation coefficients (r) were estimated.

Statistically significant gender differences were determined in sagittal measurements of NHP ($p = 0.031$) and incisor irregularity ($p = 0.023$). Females have more forwardly inclined NHP than males. Besides, male subjects have greater incisor irregularity than females. There was no significant difference for the NHP measurements among subjects with different levels of irregularity. Females have no significant correlations between incisor irregularity and in any of the NHP measurements. However in males, statistically significant correlations were determined between incisor irregularity and sagittal NHP measurements ($r = 0.369$; $p = 0.008$).

Keywords: crowding, natural head position, incisor irregularity

7. DEHISCENCE AND FENESTRATION IN SKELETAL CLASS I, CLASS II DIVISION 1 AND CLASS III MALOCCLUSION ASSESSED WITH CONE-BEAM COMPUTED TOMOGRAPHY

Ahmet Yagci, Tancan Uysal, Ilknur Veli, Kutalmis S. Buyuk, Faruk Izzet Ucar, Torun Ozer
Turkey

Objective: The aim of this study was to evaluate the presence of dehiscence and fenestration between patients with skeletal Class I, Class II and Class III malocclusions.

Subjects and Method**:** 103 patients' tomographs were obtained with iCAT scanner (Imaging Sciences International). Patients were classified as ANB angle. Class I comprised of 33 patients, 16 girls and 17 boys (mean age**:** 19.4±4.5 years), Class II comprised of 37 patients, 21 girls and 16 boys (mean age**:** 18.4±4.2 years) and Class III comprised of 33 subjects, 13 girls and 20 boys (mean age**:** 18.5±4.5 years). Totally 2283 teeth was evaluated.

Results: Class II group had a greater prevalence of fenestration than the other groups ($p<0.001$). No difference was found for the dehiscence incidence of three groups. While fenestrations had a greater prevalence in maxilla, more dehiscences were found in mandible for all groups. In Class I, alveolar defects were match relatively in both jaws. Furthermore, Class II and Class III had more alveolar defects in the mandible (41.11% and 45.02%, respectively). Dehiscences were seen with greater frequency in mandibular incisors for all groups.

Conclusions: Class II malocclusion group had greater prevalence of fenestrations than the Class III and control groups. However, no significant difference was found for dehiscence incidences.

•While fenestrations had a greater prevalence in maxilla, more dehiscences were found in mandible for all groups.

•Alveolar defects were also more predominant in the buccal root surfaces.

•The majority of fenestrations in maxilla were seen at first premolars and first molars in all investigated groups. However, dehiscences were seen with greater frequency in mandibular incisors.

Keywords: cone-beam computed tomography, dehisence, fenestration, malocclusion

8. EFFECTS OF MODIFIED AND CONVENTIONAL FACEMASK THERAPIES WITH EXPANSION ON DYNAMIC MEASUREMENT OF NATURAL HEAD POSITION IN CLASS III PATIENTS

Ahmet Yagci, Tancan Uysal, Serdar Usumez, Metin Orhan, Faruk Izzet Ucar
Turkey

Objective: The aim of this prospective clinical trial was to assess the effects of varying force direction on dynamic measurement of natural head position (NHP) and orofacial airway dimensions of Class III patients during maxillary orthopedic protraction compared with untreated control groups.
Materials and method: Conventional facemask group (CFM) comprised of 15 patients, 8 girls and 7 boys (mean age: 9.6±1.3 years), modified facemask group (MFM) comprised of 15 patients, 7 girls and 8 boys (mean age: 9.5±1.5 years) and control group comprised of 15 subjects, 7 girls and 8 boys (mean age: 9.8±1.6 years). NHP measurements and cephalometric records were obtained from all subjects before and after treatment / control period (approximately 1-year). An inclinometer and a portable data-logger were used to collect the dynamic NHP data. For statistical comparisons, paired samples t-test, analysis of variance and post-hoc Tukey tests were used at $p<0.05$ level.
Results: Both treatment groups showed statistically significant changes in sagittal (pitch) measurement of NHP; and upper pharynx, aerial and total area of airway measurements during treatment period. In control group, the only statistically significant change was an increase in upper pharynx measurement ($p=0.020$). According to intergroup comparisons, statistically significant NHP differences were found in conventional (6.4o-flexion) and modified (5.7o-flexion) facemask groups when compared to control. The MFM also showed significant changes in aerial ($p=0.003$), and total ($p<0.001$) area of the airway measurements when compared to control. No statistically significant differences were observed between the two treatment groups.
Conclusions: These findings suggest that modified and conventional facemask therapy with expansion has significant cranial flexion effects on dynamic measurements of NHP. Additionally, modified facemask procedure showed significant effects on orofacial airway dimensions when compared to initial values or untreated controls.

Keywords: extraoral traction appliances, palatal expansion technique, natural head posture, respiratory physiological phenomena

9. PREVALENCE AND INTRA-ORAL DISTRIBUTION OF AGENESIS OF PERMANENT TEETH IN EASTERN TURKISH CHILDREN

Asim Dane, Kenan Cantekin, Ozkan Miloglu, Taskin Gurbuz
Turkey

Objective: The purpose of this study was to describe agenesis of permanent teeth excluding the third molars in a sample of eastern Turkish children with respect to prevalence and intra-oral distribution according to gender.
Materials and methods: and subjects: In this retrospective study, a total of 1291 [678 males and 613 females] digital orthopantomograms (OPT's) taken by the faculty of dentistry at Ataturk University, Erzurum were assessed. The chi-square test was used to compare maxillary and mandibular hypodontia between males and females.
Results: Of the 1291 cases assessed, 80 children were found to have at least one absent permanent tooth. The prevalence of agenesis was 6.2%. A total of 135 permanent teeth were congenitally missing. Tooth agenesis was found more frequently in females than in males. Although there was no significant difference between genders for prevalence of hypodontic children ($p>0.05$), difference for account of CMT (Congenitally Missing Teeth) reached statistically significant level in respect to genders ($p<0.05$). The prevalence of hypodontia (from 1 to 5 teeth) was 6.0% and represented 97.5% of all cases. 92.6% of all cases had one or two congenital missing teeth (CMT). Oligodontia (ranged from 9 to 12 teeth) and its prevalence 0.15% in present study, and represented 2.6% of all CMT.Tooth agenesis was more commonly seen in the mandible (76.2%) than in the maxilla (23.8%). This difference was statistically significant ($p<0.05$). The most commonly missing teeth were the mandibular second premolars (84, 61.3%), followed by the maxillary lateral incisors (31, 15.6%) and mandibular lateral incisor (6, 4.4%).
Conclusions: The characteristic of hypodontia in a Turkish pediatric population compared with other populations is similar to western population. However, eastern Turkish population differs from Asian population in respect to is lower prevalence of incisor agenesis and higher prevalence of second molar agenesis.
Keywords: agenesis, prevalence, children

10. UNUSUAL MOLARS EXTRACTION TREATMENT OF SKELETAL CLASS II WITH ANTERIOR OPEN BITE

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FYROM, Austria

Aim: To present patient a girl age 13.5 years old with skeletal Class II, division 1 malocclusion (ANB 5.5˚) and severe anterior open bite (5mm). The treatment plan consisted of extraction of four first molars, followed with removable expansion appliance to correct transverse maxillary deficiency and the high-pull headgear to reinforce anchorage and prevent molar extrusion and growth modification of mandible. A conventional Edgewise fixed appliance was used. After the extraction space was closed, the multiloop Edgewise arch wire (MEAW) were used to upright the posterior teeth and extrusion of anterior teeth. Pretreatment and post treatment cephalometric radiographs were obtained and measured.
Results: The cephalometric analysis results showed the retraction of the upper anterior teeth and forward displacement of the mandible. The correct overbite, over jet and lower face height were obtained.

Conclusions: Extraction of four first molars was an effective way to improve optimal esthetic and functional results in skeletal Class II and anterior open-bite patient.

Keywords: molar extraction, anterior open bite

11. CARIES EXPERIENCE IN CHILDREN WITH SEVERE EARLY CHILDHOOD CARIES

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Romania

Introduction: Caries experience indexes in children with severe early childhood caries (S-ECC) reported in literature are lower in general population than in children referred to pediatric dental clinics. The aim of the study was to compare different samples of children (two samples from dental clinics and one from general population) from this point of view.
Materials and methods: Retrospective analysis upon 3 samples of children 5 years old or under**:** sample A – 685 children (392 boys, 293 girls) referred to Pedodontics Department, Faculty of Dentistry, Carol Davila University, Bucharest, sample B – 233 children (124 boys, 109 girls) examined in a private dental clinic and sample C – 552 children from 12 kindergartens from Bucharest. Prevalence index (IpS-ECC) and caries experience indexes (dmft, dmfs and SiC) from S-ECC children were evaluated. Caries topography was also noted. Data were analyzed using chi-square test ($p<0.05$).
Results: a) IpS-ECC**:** sample A = 40.29% (IpS-ECCboys = 39.79%, IpS-ECCgirls = 40.95%, NS), sample B = 38.18% (IpS-ECCboys = 40.32%, IpS-ECCgirls = 35.77%, NS), sample C = 15.04 (IpS-ECCboys = 17.25%, IpS-ECCgirls = 12.68%, NS); b) dmft index**:** sample A = 9.14±4.51, sample B = 8.54±3.82, sample C= 9.11±3.35 (NS); c) dmfs index**:** sample A = 21.92±14.54, sample B = 18.43±11.96, sample C = 17.65±9.37 (NS);d) SiC**:** sample A = 14.38, sample B=13.00, sample C =12.60 (NS); e) Children with caries in upper and lower molars and front teeth (rampant caries)**:** sample A = 23.91%, sample B = 19.10%, sample C = 19.28%.
Conclusions: 1) Although S-ECC is more prevalent in children referred to state or private dental clinic, the severity of caries experience is the same in all samples; 2) There are no differences between sexes regarding prevalence index and caries experience indexes.

Keywords: severe early childhood caries, dmft, dmfs, SiC

12. DMF STRUCTURE IN 12 - YEARS – OLD CHILDREN IN BELGRADE ELEMENTARY SCHOOLS

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Serbia

Introduction: Caries remains serious health and socio-economic problem for it is a common cause of tooh loss in children.
Aim**:** This was to estimate and compare DMF structure in fifth grade students attending elementary schools in Belgrade, Republic of Serbia.
Materials and methods: The study represents a parallel analysis of epidemiological data obtained during two research periods**:** in 2007 and in 2009. A total of 1360 children (12 years of age) from Belgrade elementary schools were examined, according to the WHO criteria, by one calibrated examiner. Intra – examiner reproducibility was calculated using Cohen's kappa score. Comparison and estimation were based on a parallel analysis, a value of statistic coefficient of DMF structure index and progression of tooth decay in both generations of the fifth grades.
Results: The intra-examiner reproducibility was good (kappa 0.83). DMF structure among fifth grades in 2007 is as follows**:** Among 834 children, of both genders, subjects of a check-up, ages 11-12 (attending the fifth grade), out of 22527 teeth present at the time, affected by caries were 596 (20,86%), extracted teeth 638 (22,33%), teeth with fillings 1622 (56,77%). There were 2856 DMF. 2009 **Results:** Among 526 children, of both genders, subjects of a check-up, ages 11-12 (attending a fifth grade), out of 14202 teeth present at the time, affected by caries were 334 (26,03%), extracted teeth 182 (14,18%), teeth with fillings 767 (59,78%). There were 1283 DMF. The largest percentage of caries and extracted permanent teeth were noticed at wide area of Belgrade, whereas at rope city area.
Conclusions: Continual implementation of the program's preventive activities, health/education measures and early treatment of caries has been resulted in improvement of oral health.
This study is supported by grant of Ministry of Science and Technology, Republic of Serbia No. III 46009.

Keywords: DMF structure, dental caries, children

13. THE ORTHOPANTOMOGRAM STUDY OF PERMANENT TEETH HYPODONTIA

Georgeta Zegan, Daniela Anistoroaei, Loredana Golovcencu, Boatca Radu Madalin
Romania

Introduction: The term of hypodontia is used to define the phenomenon of lack of one to six permanent teeth (except 3rd molars). Oligodontia is defined to be the congenital lack of more than 6 permanent teeth (except 3rd molars). Anodontia is defined as the congenital lack of all permanent teeth. The congenital lack of permanent teeth is determined clinically (the absence of tooth eruption in the oral cavity) and radiographic (the absence of the dental buds on the orthopantomogram).
Materials and methods: The purpose of this study is to make a statistical evaluation of hypodontia on a group of 587 patients (240 boys and 347 girls) with ages between 5 and 24 years, who addressed for orthodontic consultancy the Ambulatory of Pediatric Dentistry, Iasi. 107 patients (49 boys and 58 girls), with a mean age of 10 years were

diagnosed with hypodontia – by clinical observation and orthopantomogram examination. Hypodontia of the 3rd molars was not taken into consideration. The data base consists in the patients' observation sheets and the statistic calculations were completed using the SPSS-17 Program for Windows.

Results: In the study lot the hypodontia frequency is 1.82%. The hypodontia patterns show an increased frequency of 53% for the hypodontia of one tooth and a frequency of 46% for the hypodontia of two teeth. The most frequent type of hypodontia pattern was 35 hypodontia, 12 and 22 hypodontia, 35 and 45 hypodontia, 12 hypodontia and 2 hypodontia. The frequency order of hypodontia affectation in the four dental quadrants was quadrant 3 – 33%, quadrant 1 – 23%, quadrant 4 – 22% and quadrant 2 – 22%. The vertical, horizontal and diagonal hypodontia symmetry patterns were evaluated and on sexes.

Conclusions: The results of the prevalence hypodontia patterns express the necessity to approach proper and complex treatment involving a team of specialists.

Keywords: hypodontia, orthopantomogram, prevalence

14. ERUPTION OF PALATALLY IMPACTED MAXILLARY CANINE WITH MINISCREW: CASE REPORT

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Turkey

Introduction: Maxillary canines are the most commonly impacted permanent teeth except the third molars and palatally impacted canines are more frequent than buccal impaction. The causes related with canine impactions are usually the results of any one or combination of the following factors**:** genetics, tooth size-arch length discrepancies, prolonged retention or early loss of the deciduous canine, dilacerations of the root, ankylosis, cystic or neoplastic formation and the absence of the maxillary lateral incisor. As an alternative; miniscrews can be employed to extrude and align impacted teeth in the opposing arch with vertical elastics. In this case report, we represent orthodontic treatment by alternative extraction of the patient with skeletal Cl I, maxillary right impacted canine and severe crowding.

Case report: 16 years old female patient referred to our clinic with complaint of unesthetic smile. She had 2,7 mm overjet, 4 mm overbite and Cl I relationship. The arch length deviation of the lower jaw was -10 mm and -12 mm in the upper jaw. Firstly, deciduous canine and maxillary right first premolar teeth were extracted and the impacted tooth was exposed with a surgical operation and a button was bonded on the tooth. A miniscrew was placed between mandibular premolar region and the patient was instructed about full time wear of 1/8 heavy elastics to erupt canine. Then, all remaining premolars were extracted and conventional fixed orthodontic treatment was applied. At the end of the treatment Cl I molar relationship, functional occlusion and a nice smile have been obtained.

Conclusions: While impacted canines placing onto ideal occlusion, many procedures are proposed to prevent bending of the occlusal plane and loss of anchorage. Miniscrews are one of these treatment alternatives and they causes decreasing in treatment time and side-effects to other teeth don't occur.

Keywords: impacted canine, eruption, miniscrew

15. OLIGODONTIA TREATMENT REQUIRING COMBINATION OF ORTHODONTIC-PROSTHODONTIC TREATMENT

Ozlem Akinci, Rabia Merve Celik, Zafer Sari, Ozlem Koc
Turkey

Introduction: The presence of oligodontia of the permanent dentition is reported to be %0,3. There are several treatment options for permanent tooth oligodontia. Many patients choose to have the deciduous teeth removed and the space reduced orthodontically. The other choose is to use the deciduous dentition in the final occlusion.

Case report: The famale patient was 17 years 2 months presented with congenitally missing maxillary lateral incisors and mandibular incisors with esthetics complaints. She had anterior spacing in both arches and deep bite problem with Class II malocclusion. Mandibular left decidious canine and right decidious incisor was in the mouth. Permanent left mandibular canine was place on the anterior region. The original treatment plan for this patient was to close spaces for the missing maxillary lateral incisors and retained decidious teeth in mandibular arch if it was possible and than preparation for prosthetic replacement with fixed bridge work to close the mandibular anterior spaces. Full bonding was done to all teeth, after levelling Class III elastics were used. Open coils were used to close the decidious incisor and permanent canine. Deep bite problem was treated with reverse spee and utility archs. Posterior occlusion was corrected, deep bite was reduced, appropriate spaces were created before prosthodontic treatment. To improve appearance of repositioned maxillary canines composite restoration was replaced. After periodontally treatment, mandibular decidious incisor was evaluated very mobile, so it was extracted. The patient was given maxillary and mandibular Hawley retainer to wear during the prosthodontic treatment. The teratment was including right canine to left premolar porcelain bridge.

Conclusions: After restorative bridge work in the mandibular anterior teeth, the lip support was improved. The clinical results generally were satisfactory and this treatment can be recommended, if the indications.

Keywords: oligodontia, prosthodontics, congenitally

16. NON SURGICAL TREATMENT OF ADULT CLEFT LIP – PALATE PATIENT

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Turkey

Introduction: Maxillary hypoplasia, anterior or posterior cross bite, absence of teeth and crowding are major problems that may be observed in unilateral or bilateral cleft lip-palate patients. If the required treatment is not carried out during the growth period, the chance of obtaining satisfactory results is highly decreased. Different types of treatment methods recommended for these patients.
Case report: A 15 year-old male patient with unilateral cleft lip-palate was referred to our clinic. The patient had Class III malocclusion and concave profile with anterior crowding.The patient had a congenital left total cleft lip and palate which had been repaired in childhood by lip and palate surgery operation before the orthodontic treatment. Upper left lateral incisor was missing. Nonsurgical orthodontic treatment was planned. Nickel titanium palatal expander appliance was used to eliminate maxillary constriction. After 8 months of expansion maxillary and mandibular dental arches were bonded except mandibular incisors.After levelling and extraction of maxillary right incisor, face mask applied. Then mandibular incisors were bonded and Class III elastics were used during 10 months. Towards the end of treatment stripping process was done to maxillary canines to reduce the mesiodistal widths and to convert canine shapes to lateral shape. After 3 years 3 months of orthodontic treatment Hawley retainer applied to maxillary arch after bonding lingual retainers.
Conclusions: At the end of the treatment SNA angle increased, the SNB angle decreased due to posterior rotation of the lower jaw. These skeletal changes lead to a decrease of the ANB angle. Skeletal changes and at the same time the anterior movement of upper incisors were effective for correction of the anterior cross bite. Considerable improvement on soft-tissue and the occlusion were obtained.

Keywords: cleft, lip, palate, nickel titanium, palatal expander

17. CT EVALUATION IN DETERMINING THE INTERRELATION BETWEEN LATERAL INCISOR AND IMPACTED CANINE AT MAXILLARY

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Romania

Introduction: Impaction phenomenon is a pathological condition which is defined as the lack of eruption of a permanent tooth in the oral cavity. Impacted canines at maxillary are an abnormality currently encountered, diagnosed and treted by orthodontic specialist. The aim of this study is to analyze the recalibre of maxillary canine impaction in interrelation with adjacent lateral incisors and to determine the level of root resorption of the lateral incisors due the impact canine. Subjects and method**:** this study group consisted of 34 patients aged from 12 to 42 years (20 females and 14 males) further divided into patients with unilateral palatally impacted maxillary canines and patients with buccally positioned canines. We also divided the group according to the existence and included unilateral or bilateral canine. We evaluated two various imagistic exam, CT with Dental CT soft and orthopantomography, comparing the highlighting advantages and disadvantages.
Results: There was a highly significant difference between the panoramic radiography with 2D images and CT with 3D images in the width of the canine crown and angulation to the occlusal plane. We estimated that the lateral incisor root resorption was more frequently in women patients. The occurrence of palatal canine impaction it was stood higher than the buccal canine impaction. The palatal canine impaction was evaluated more common than the buccal canine impaction.
Conclusions: CT evaluation is more sensitive than conventional radiography for both canine localization and in the assessment of lateral incisor root resorption.Prevention of lateral incisor root resorption can be achieved by establishing a properly treatment for an included canine.

Keywords: computer tomography, impact canine, resorption

18. LONGITUDINAL CHANGES IN PERIODONTIUM AND IN SALIVARY FLOW DURING FIXED ORTHODONTIC TREATMENT

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Turkey, Finland

Objective: The aim of the present longitudinal study was to examine the impact of fixed orthodontic therapy on periodontal tissues and saliva in subjects with malocclusion.
Materials and methods: Thirteen orthodontic patients with Angle Class I malocclusion receiving fixed orthodontic therapy formed the case group, and 12 dental students without malocclusion and orthodontic treatment formed the control group. Plaque index (PI), Gingival index (GI), probing pocket depth (PPD), salivary flow, and oral malodor were measured from both groups. The case group had one visit at baseline and seven visits during orthodontic therapy (1, 3, 5, 7, 9, 11, and 13 months after bonding), while the control group had three visits, once per subsequent month.
Results: PI, GI, PPD, salivary flow, and oral malodor scores were higher in the case group in all visits than those in the control group. Significant increases in clinical index levels were observed on month 7, either in comparison with the baseline (GI, PPD, oral malodor), or with the first month of therapy (PI). Thereafter, PI and GI scores decreased significantly on month 9, while oral malodor continued to increase and PPD stayed steady. Salivary flow levels, on the other hand, did not change through out the follow-up.
Conclusions: The differences in parameters between the case and control groups come rather from malocclusion than from orthodontic therapy. During fixed orthodontic

therapy, however, increased plaque accumulation results in inflammation in gingival tissues and, consequently, in pseudo pocket formation.

Keywords: plaque index, salivary flow, orthodontic therapy

19. EFFECT OF DIFFERENT ADHESIVE SYSTEMS ON MICROLEAKAGE OF ORTHODONTIC BRACKETS

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Turkey

Introduction: The aim was to assess microleakage within enamel/bracket interface bonded with different types of adhesive systems when the surrounding enamel tissue was either protected against surface treatments or not.
Materials and methods: 80 human premolars were first randomly assigned into 2 main groups (A&B) with respect to the protection type of the surrounding enamel tissue and each main group was divided into 4 groups (n=10). For GroupA, stickers mimicking the base of the bracket were pasted on the buccal surface and the remaining parts were coated with nail varnish; then the stickers were removed out, leaving the neighborhood enamel free of the adhesives. In GroupB, bonding procedures were accomplished without paying attention to the borders of the bracket base to mimic clinical bonding. The groups received the following treatments for bonding metal brackets. Group1**:** Clearfil Protect Bond+TransbondXT (2-step self-etching system); Group2**:** %10 Polyacrylic acid+FujiOrthoLC (glass ionomer adhesive system); Group3**:** Transbond Plus Self-Etching Primer+TransbondXT (all-in-one adhesive sytem); Group4**:** Acid Etching+TransbondXT (etch-and-rinse system). Following photopolymerization, the teeth were kept in distilled water for 24 hours and subjected to thermal (1000 cycles) and pH cycles (14 days). Specimens were stained with 0,5% basic fuchsin for 24h, sectioned and examined under a stereomicroscope (X20) and microleakage values for enamel and bracket interface from incisal and gingival margins were evaluated by quantitative image analysis software (Scion Image for Windows). Statistical analysis was accomplished by KruskalWallis and Mann-Whitney-U tests.
Results: All groups demonstrated microleakage between bracket/enamel interface especially in the cervical region. Clearfil Protect Bond showed the most microleakage values in the cervical region in protected groups, however, SEP showed the most microleakage in the servical region in nonprotected groups.
Conclusions: Self-etch systems shows the most microleakage values in the cervical region in all bonding systems.

Keywords: orthodontic brackets, adhesive systems, microleakage

20. NON-SURGICAL TREATMENT OF CLASS III MALOCCLUSION

Sonila Stefoni Jani

Introduction: The Skeletal Class III malocclusion is characterized by mandibular prognathism, maxillary deficiency or both. The surgery can be part of the treatment plan, for many of them. However, the associated surgical risks and complications must be considered, as well as the increased expense. If a non-surgical treatment alternative can produce results comparable with those that could be achieved surgically, then it should be considered and can be the treatment of choice for some patients.
Case report: The purpose of this report is to review the orthodontic treatment of a 12 years old female patient Class III malocclusion who was treated non-surgically. She presented a moderate dental and skeletal Class III malocclusion. The profile was concave. The lower lip was prominent and the lips were incompetent with mentalis strain. Vertical facial proportions were normal and there were no significant asymmetries.
Treatment objectives**:** establishing Class I canine relationships; eliminating maxillary and mandibular arch length discrepancies; aligning arches; correcting overbite, overjet and midlines; providing an aesthetic smile.
Extractions of first lower premolars were recommended in order to achieve a class I canine relationship. Maxillary and mandibular fixed appliances (Roth 0.022-inch) were used. Fixed appliance treatment was completed in 18 months.
Discussions**:** A significant skeletal discrepancy would suggest surgery, but the presence of protrusive mandibular and retrusive maxillary incisors, and a functional shift with an end-to-end incisor relationship in CR made non-surgical treatment a viable option. In addition to retraction of the mandibular anteriors, some proclination of the maxillary incisors is usually required to establish good overjet relations. This proclination can also add prominence to the upper lip, and produce a better aesthetic relationship between the upper and lower lips. A sufficient overbite can actually help retain the correction of an anterior crossbite.

Keywords: class III maloclusion, non-surgical treatment, extraction

21. COMPARISON OF RAPID AND SEMI-RAPID MAXILLARY EXPANSION IN THE MIXED DENTITION

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Turkey

Aim: The aim of this study was to compare the dental and skeletal effects of rapid (RME) and semi-rapid maxillary (SRME) expansion on in the mixed dentition period.
Subjects and Method**:** The SRME group consisted of 18 patients and the RME group 17 patients. A splint type tooth and tissue-borne modified bonded RME appliance was used. The screw was activated two quarter turns per

day for first week and one quarter turn every other day in the SRME group and two quarter turns per day throughout treatment in the RME group. A total of 25 measurements including 18 on the lateral and three on frontal cephalometric radiographs, and four on dental casts, were achieved. A Wilcoxon signed rank test was used to evaluate the treatment effects (pre-treatment (T0)- post-treatment (T1) changes for both the SRME and RME groups) and a Mann-Whitney U test to determine the differences between the two groups (T0-T1 changes SRME versus T0-T1 changes RME).
Results: The maxillary base, nasal cavity width and upper intercanine and intermolar distances were increased, and the upper molars tipped buccally for both groups. The only statistically significant (P<0.05) difference between two groups was in inferior movement of PNS relative to the SN plane (SN┴PNS). This measurement increased in both groups yet significantly more in the RME group.
Conclusions: The results suggest that RME and SRME have similar effects on dentofacial structures both in the transversal, vertical and sagittal planes.

Keywords: rapid maxillary expansion

22. OPTIMIZING ADHESION OF ORTHODONTIC BRACKETS TO FLUOROSED TEETH

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Republic of Moldova

Introduction: Bonding of orthodontic brackets to fluorosed enamel is a challenge for all dental clinicians. The objective of this study was to determine the success of bracket retention in patients with dental fluorosis using a different acid etch protocol.
Materials and methods: 12 patients with varying degrees of dental fluorosis were bonded in vivo with a split mouth design with one side of the arch treated with 37% phosphoric acid for 60 seconds and then bonded. The other side of the arch in all patients was pretreated with Opalustre (ultradent) containing 6.6 % hydrochloric acid and silicon carbide micro particles in a water-soluble paste for 45 seconds and then bonded.
Results: Over a period of 12 months, 17 bond failures occurred in the side treated with 37% phosphoric acid and 7 bond failures occurred in the side treated with Opalustre containing hydrochloric acid and silicon carbide micro particles. An unpaired t test statistical analysis revealed p=.0108 which is statistically significant by conventional criteria, demonstrating the effectiveness of pretreatment of teeth with Opalustre for orthodontic bonding in cases of dental fluorosis.
Conclusions: The rate of bond failure with 37% phosphoric acid is high in patients with dental fluorosis. The rate of bond failure is higher with phosphoric acid than with Opalustre, so Opalustre containing hydrochloric acid can be recommended for pretreatment of teeth with fluorosis for orthodontic bonding. The recommended acid etch protocol also saves chair side time of the orthodontist, improves success rate of the treatment and minimizes cost of the treatment by preventing recurrent bond failures.

Keywords: dental fluorosis, micro abrasion, bonding, acid etch

23. MORPHOLOGIC ANALYSIS OF THIRD-MOLAR MINERALIZATION FOR EASTERN TURKISH CHILDREN AND YOUTH

Kenan Cantekin, Yucel Yilmaz, Tevfik Demirci, Mevlut Celikoglu
Turkey

Introduction: To date, there has been no chronological age estimation according to third molar mineralization in eastern Turkish children and adolescents. The aim of this study was to analyze the development of the mandibular third molar and its relationship to chronological age in subjects aged 7 to 22 years according to Demirjian's stages.
Materials and methods: The final sample consisted of 1,348 [622 males (mean age, 11.74 ± 2.29) and 726 females (mean age 12.03 ± 2.10)] conventional orthopantomograms from eastern Turkish youths.
Results: The mean age was 12.83 ± 3.01 years, made up of 622 males (mean age, 12.72 ± 3.14) and 726 females (mean age, 12.92 ± 2.89).The mean mineralization ages and standard deviations for the Demirjian stages of third molars are shown in Table 2. There was a difference between males and females for stage C (p = 0.03). Females were advanced by 0.47 years more than the males at stage C. In addition, a slight delay was observed in females for stage A (p = 0.06). Third molar crypt formation was observed in 3.8% of patients aged seven years. It was also seen that third molars had reached complete crown calcification at age 13 years, ranging from 10.4 to 15.9 years. Linear regression coefficients were used to assess the correlation between third-molar development and chronological age. Statistical analysis showed a strong correlation between age and third-molar development for males (r2 =.57) and females (r2 =.56). The new equations were the following**:** Males**:** Age = 9.54 + 1.08 Development stage, Females**:** Age = 10.01 + 0.93 Development stage
Conclusions: Third molar development among eastern Turkish children and youths occurs at a more advanced age than other populations for almost all stages.

Keywords: forensic science; dental age estimation; third molar mineralization; eastern Turkish; linear regression; Demirjian method

24. FIXED ORTHODONTIC TREATMENT AND LASER BENEFITS

Laura Maria Filip, Silvana Canjau, Mariana Miron, Cosmin Balabuc, Carmen Todea
Romania

Introduction: Fixed orthodontic therapy may affect the young patient's periodontium by favoring plaque retention, directly injuring the gingiva as a result of overextended bands and creating excessive and/or

unfavorable forces on the supporting tooth structure. The aim of the present series of case reports was to clinically evaluate the improvement of periodontal status in young patients with fixed orthodontic appliances, after laser treatment application.

Materials and methods: Young patients (aged 12 to 23), each displaying gingival inflammation and hyperplasia after placement of fixed orthodontic appliances, were included in the study. Different laser devices were used**:** Carbon Dioxide laser (10600nm), Nd**:** YAG laser (1064nm), Er**:** YAG laser (2940nm) and Diode lasers (915nm and 980nm) for excision of hyperplasic gingival tissue. Lasers were used also for hypertrophic frenulum excision. The patients were scheduled for follow-up visits**:** the next day, 3 days, 1 week, 1 month, and 6 month after laser treatment.

Results: Clinical examination during the immediate control visits revealed signs of good healing**:** no swelling of surrounding tissues, no signs of wound infection, and the patients presented no pain or low pain 1-2 days after the treatment. The long-term follow-up visits revealed that the excellent results obtained by laser treatment maintained only if the patient performed an appropriate oral hygiene.

Conclusions: Lasers (Er**:** YAG, Diodes, Nd**:** YAG and CO2) are efficient tools in re-establishing a good periodontal status in young patients following fixed orthodontic treatment. Long-term maintenance of the positive results obtained depended largely on the orthodontic patients' motivation and compliance in maintaining their own oral health.

Keywords: orthodontic treatment, laser therapy, young patients

25. PREDICTION OF LOWER THIRD MOLAR IMPACTION

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Romania

Introduction: The mandibular third molar remains a subject of considerable concern for orthodontists, surgeons, periodontologists and general dentists because it's controversial behavior.

Aim**:** The purpose of this study was to investigate the reliability of some prediction factors regarding the risk of third lower molar impaction in adolescent orthodontic patients.

Materials and methods: Standardized panoramic radiographs were taken before and after orthodontic treatment. The study sample was divided into non-extraction treatment group and extraction treatment group. For all lower third molars we measured the retromolar space, the mesiodistal crown width, the angulations between third lower molar and second lower molar axes and the angle between third lower molar axis and the occlusal plane at T1 and T2. Comparative and correlative analyses were performed between the groups.

Results: There was a 6,53% increase in third lower molar chances of eruption post orthodontic treatment in nonextraction group, comparative to 7,4% in the extraction group for the same variable. Considering the angle formed between lower third molar and second lower molar long axis, there is a 9,3% increase post orthodontic treatment in the number of lower third molars with 100% chances of eruption in nonextraction group and a 32, 4% increase in the extraction group for the same angle. The angle formed by the lower third molar with the occlusal plane increased after orthodontic treatment in both groups, with a slight advantage in the extraction group.

Conclusions: The orthodontic treatment may bring a slight increase in the eruption chances of borderline third molars; the predicting factors taking into study showed their reliability in most cases. The extraction of lower premolars and molars influences the pretreatment prediction of eruption, but not for those lower molars with more than 50% risk of impaction.

Keywords: THIRD LOWER MOLAR, PREDICTION, IMPACTION

26. DENTO-MAXILLARY DEFORMITIES ASSOCIATED WITH GENETIC SYNDROMES: CASE REPORTS

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Romania

Introduction: Genetic syndromes have severe repercussions at different levels in the body, many of them affecting the jaw and dental structures. Depending on the type of syndrome and its mode of phenotypic expression, the dento-maxillary deformities are varying. Dento-maxillary changes in genetic diseases are various**:** anomalies in crown shape and root, dental agenesis, alterations of arch form and alterations of the soft tissue parts.

Case reports**:** This paper presents three clinical cases of patients suffering from Incontinentia pigmenti, Pierre Robin syndrome and Down syndrome. Incontinentia pigmenti (Bloch-Sulzberger syndrome) is a rare X-linked transmitted disease. This syndrome is exemplified by the case of a 7-year-old patient presenting multiple dental agenesis in the permanent dentition (upper lateral incisors, upper bicuspids, and second molars 1.7, 2.7,3.7. In addition, the lower incisors have an atypical shape and the upper jaw is narrow. The second case report belongs to a 14 years old patient with Down syndrome (Trisomy 21). The patient has a characteristic mongoloid facies, with Insufficient mandible development. The tooth eruption is delayed, with permanent teeth showing changes in shape, reduced mesio-distal dimension, and short dental roots. Also, the patients presents a maxillary constriction. The last clinical case belogs to a 8 years old patient, who was diagnosed with Pierre Robin syndrome, a genetic syndrome having still an unknown aetiology. The patient has a cleft lip and palate, micrognathia and upper right lateral incisor agenesis. The upper dental arch is narrowed in the anterior region.

Conclusions: Genetic syndromes, through the complexity of deformities at dento-maxillary level require special attention in designing the treatment plan in order to guide a functionality of the dento-maxillary system as close to normal as possible.

Keywords: genetic syndromes, Perre Robin syndrome, Down syndrome, Incontinentia pigmenti, agenesis, dento-maxillary deformity

27. EPIDEMIOLOGICAL TREND OF CURRENT PARTICULARITIES STEPS IN 7-11 YEARS OF AGE

Marinela Pasareanu, Dana Cristiana Maxim, Ana Petcu, Roxana Mihaela Mocanu
Romania

The gravity of the enamel developmental defects request systematical and ample studies to obtain a more correct image over the size and the characteristics of the injuries, even though their prevalence is relatively decreased. The authors' goal was to study the gravity of the enamel developmental defects at a school population from Iasi using the usual gravity indexes and the enamel defects score (EDS) for every examined subject. The recordings were done using the modified DDE index chart codes, which presents subtypes and also the extension of the examined defect. The obtained EDS score has a mean that varies from 0.007 at 7 years of age to 0.31 at 11 years of age. For primary teeth the gravity index has the limits between 10% and 20%, and for permanent teeth it's obvious a more dispersed distribution of children with enamel defects, almost each class having been represented. The prevalence of the enamel developmental defects is far from a public health problem, but the gravity indexes with values more than 40% request a new orientation concerning the prevention, the interception and the therapy.

Keywords: child, enamel developmental defect, enamel defects score

28. THE EFFECT OF TOPICAL-FLUORIDES AND CASEIN-PHOSPHOPEPTIDE-AMORPHOUS-CALCIUM-PHOSPHATE ON WHITE SPOT LESIONS

Mehmet Akin, Faruk Ayhan Basciftci
Turkey

Objective: The aim of this study was to evaluate effect of topical flouride and Casein Phosphopeptide Amorphous Calcium Phosphate (CPP-ACP) on reducing of white spot lesion.
Materials and methods: The study population consisted of 45 (28 females, 17 males) patients with multiple decalcified enamel lesions after fixed orthodontic therapy. The patients divided into 3 groups (15 in flouride group, 15 in CPP-ACP group, 15 in control group). The flouride group patients were instructed to use the 30 ml neutral 0.05% sodium flouride rinse two times in a day apart from flouridated toothpaste for six months, CPP-ACP group patients were instructed to use GC Tooth Mousse two times in a day apart from flouridated toothpaste for six months. The control group patients were given the same fluoridated toothpaste as the test group. The photographic records were taken on first examination and six months later on last examination. The area of white spot lesion was measured by AutoCad software program. After measuring the effected teeth surfaces, they were divided into three groups according to the Gorelick classification (Class I mild, Class II moderate, Class III severe demineralization) in three groups.
Results: The results reveal that, reduction on in the CPP-ACP group in three classifications was significantly more than other two groups (P<0.001). As for flouride group a little more reduction was observed than control group (P<0.001). Class I had more reduction in three groups than other classifications (P<0.001).
Conclusions: The use of the CPP-ACP described in this study was significantly beneficial in white spot lesion treatment. A regimen of this kind should therefore be considered for treatment of white spot lesion.

Keywords: demineralization, remineralization, white spot lesion, flouride, casein phosphopeptide amorphous calcium phosphate

29. EVALUATION OF WHITE SPOT LESIONS DISTRIBUTIONS AFTER ORTHODONTIC TREATMENTS

Mehmet Akin, Faruk Ayhan Basciftci, Zeliha Muge Baka
Turkey

Introduction: The development of incipient caries, or white spot lesions (WSLs), is a significant clinical problem in orthodontics. The aim of this study was to determine the distribution of white spot lesion after orthodontic treatment in mouth.
Materials and methods: A total of 80 (34 male and 46 female) (1600 teeth) consecutive finished patients who have at least one white spot lesion from a university graduate orthodontic clinic were evaluated. Initial and final digital images were compared to assess WSLs. The facial surfaces of the anterior and posterior 20 teeth were analyzed. The percentage area of WSL per total facial tooth surface was calculated to control for magnification differences. Reliability of the method was assessed by comparison with direct clinical examination data. Male and female, maxillary and mandibular, right and left side factors and the most effected teeth factors were evaluated as predictors of WSL incidence and severity. Data were analyzed with Mann-Whitney U-test and chi-square tests.
Results: There was a statistically significant difference between teeth (P<0,05). The percentages of individuals WSLs distrubitions were 60 % for male, 63 % for female in each groups. The median of the white spot scores was higher in female than male (P<0,05). No differences with respect to white spot lesion scores were found between

right and left sides and maxillary and mandibular archs (P>0,05). The maxillary lateral and mandibular canines were the most effected teeth in mouth (89 %).
Conclusions: The majority of the lesions were scored in gingival areas because of the difficulty in providing oral hygiene and especially affected teeth were maxillary lateral incisors and mandibular canines. Female are more inclined to have WSLs than male.

Keywords: Orthodontic Treatment, White Spot Lesion, Distrubition

30. THERAPEUTIC PARTICULARITIES FOR DENTAL-MAXILLARY ANNOMALY WITH CROWDING IN MIXED DENTITION

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Romania

Introduction: Dental-maxillary anomaly with crowding was defined as discordance between the bone development and teeth volume, involving dental perimeter and length of dental arch. In mixed dentition in the first phase incisors erupt crowded, overlapping and rotate and in the second phase the space for canines and premolars is reduced. In this study we evaluate the relationship between treatment success and most important characteristic of dental-maxillary anomaly with crowding in mixed dentition
Materials and methods: evaluate, using orthodontic files, a number of 120 patients aged 6-12 years with dental maxillary anomaly with crowding that demand themselves diagnosis and treatment in Orthodontic Department of Faculty of Dental Medecine Iuliu Hatieganu Cluj-Napoca between years 2009-2011. We monitor the selected items**:** patients' age, dental condition, space deficiency, patient motivation, type of appliance used and the evolution of cases.
Results: and discussions**:** The great majority of patients demand treatment in the second phase of mixed dentition when physical appearance develops into an important element for social acceptance. We observe also the presence of oral habits that aggravate the prognosis and require a more complex treatment plan. Unfortunately at this age patients has a compromise condition of temporary molars and first permanent molars also. That generates anchorage problems and in these particular conditions functional and removable appliances represented the unique possible choice. In this circumstances treatment success is inherent related with intrinsic motivation of patient. Evolution of cases in our study group revealed, in a great majority of cases (47, 5%), abandon or partial success. That demonstrates the importance of patient active involvement during all the treatment.
Conclusions: Orthodontic treatment for dental maxillary anomaly with crowding conduced between 6-12 years of age is a positive factor for changes in a facial and skeletal environment in witch growth process expresses themselves. Unfortunately, at this age, our patient's dental condition is severely affected that imposed a particular approach in order to obtain excellent results.

Keywords: crowding, mixed dentition, removable appliances, motivation

31. LINGUAL ORTHODONTICS WITH CUSTOMIZED BRACKETS- A CHALLENGE FOR ADULT ORTHODONTICS

Camelia Szuhanek, Florica Glavan, Rodica Jianu, Andreea Lazea, Anna Darvas
Romania

Aim: The demand for esthetic appliances has raised in the recent years, due to the increased number of adult patients seeking orthodontic treatment.
Case report: The purpose of our study was to present a case of an adult female patient that was treated with lingual customized brackets. A 24 year old female presented to orthodontist requiring orthodontic treatment. The clinical and cephalometric investigation revealed bi-maxillary retrusion, upper and lower crowding, high angle. Due to the esthetic requirements of this patient, a customized lingual appliance provided by Incognito 3M Gmbh was chosen. The system requires a special impression technique. The company provided the patient set-up and the orthodontic system of customized brackets and wires. The wires selection was made by the clinician. The system provided excellent results, results while maintaining invisible during whole treatment.
Conclusion: The Incognito customized orthodontic appliance offers a modern alternative through CAD-CAM technology that improves bracket positioning, the predictability of results and patient comfort.

32. CEPHALOMETRIC CHARACTERISTICS OF ORTHODONTIC WESTERN ROMANIAN POPULATION

Camelia Szuhanek, Florica Glavan, Rodica Jianu, Malina Popa
Romania

Aim: The purpose of our study was to evaluate the cephalometric data of a group of 200 patients from Western Part of Romania.
Matherials and methods: A group of 200 patients from the orthodontic clinic was evaluated in this study. Digital lateral X-Ray were performed before and after the orthodontic treatment. The cephalometric X-Rays were analysed with the CephX software. The methods of ceph analysis taken into this study were Bjorn Jarabak, Downs, McNamara, Ricketts and Tweed. Results were statistically analysed and then compared with the norms of the European population taken from previous studies.
Results and conclusion: The parameters of the analysed group were similar with the norms from previous cephalometric studies performed on European population.

33. STATISTICALLY SIGNIFICANT CORRELATIONS BETWEEN PARAMETERS MEASURED ON LATERAL CEPHALOMETRIC AFTER TWEED METHOD BEFORE AND AFTER ORTHODONTIC TREATMENT IN CLASS II/1 MALOCCLUSION

Dragoș Stanciu, Ileana Simion, Radu Stanciu, Anca Temelcea
Romania

The aim of this clinical trial consisted in evaluating therapeutic effects of the various treatment techniques used to treat different clinical situations.
This evaluation was done by monitoring certain skeletal and dental parameters and their changes brought about by orthodontic treatment.
The study group consisted of 84 subjects, which were submitted to a private dental practice. The patients' age ranged between 7 and 38 years, 22 boys and 62 girls.
Variables monitored were both angular, represented by the angles: FMA, FMIA, IMPA, SNA, SNB, ANB, Oclusal plan, Z, I, and linear, consisting of: AOBO, HFP-HFA. These parameters are included in the analysis of teleradiography by the Tweed method.
Values were measured for each patient at the beginning and at the end of orthodontic treatment.

Key words: Class II/1 maloclussion, statistically correlations, angular and liniear parameters

Prevention

1. CURRENT WORKING PRACTICES IN PREVENTION IN DENTISTS FROM CONSTANTA, ROMÂNIA

Corneliu Amariei, Cristina Nuca
Romania

Introduction: For alignment the practice of dentistry from our country to European standards, assessment and improvement of the current practices of practitioners in prevention is essential. The aim of this study is to evaluate, based on the tools provided by SRED, the current working practices in prevention of dentists from Constanta district.
Materials and methods: The study was made on a representative sample of 60 dentists (95% C.L., 12% sampling error); the assessment tool was a questionnaire (used by face-to-face interview) with 42 questions, 12 of these being analyzed in this study, as they assess the current practices in prevention.
Results: 95% of subjects (n=57) consider that universities should offer more prevention lectures; of the dental prevention activities, 75% of subjects (n=45) are practicing local topical fluoridations, 95% (n=57) - professional oral hygiene, 88.3% (n=53) - classical sealing of teeth, 51.7% (n=31) - extensive sealing of teeth and 98.3% (n=59) - scaling; 91.7% (n=55) of subjects believe they can influence the patient's caries risk; 98.3% (n=56) believe they can influence the patient's periodontal risk; 93.3% (n=56) recommend individualized tooth-brushing techniques; 40% (n=24) are not influenced in clinical decision by the concern for infection transmission in a possibly infected patient; 78.3% (n=47) perform periodic testing for the main diseases transmitted by blood; 48.3% (n=29) use only dry heat sterilization, 18.3% (n=11) use only wet heat sterilization, and 33.3% (n=20) use both methods; 80% (n=48) consider that the individual protection equipment must be complete in all patients, regardless of labor.
Conclusions: The results of this study clearly demonstrate the need to increase the awareness and skills of dentists from Constanta regarding the prevention of oro-dental diseases but especially in preventing transmission of infection in dentistry, in order to achieve the EU desires and to ensure the health and safety at work in dentistry.
Acknowledgements
This work was funded by POSDRU/81/3.2/S/55651 Project.

Keywords: dental practice, opinion survey, dental prevention

2. SMOKING, SALIVARY COTININE AND CPI IN ADULTS FROM CONSTANTA

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Romania

Introduction: Given the continuous increasing of the smoking habit at a global level, the evaluation of the Community Periodontal Index (CPI) in relation with the most important behavioral risk factor of the periodontal disease is essential for the prevention strategies. The aim of this study was to evaluate the smoking prevalence, the salivary cotinine levels and the CPI in 35-44 year-olds from Constanta. Ethical permission and written consents were obtained.
Materials and methods: a cross-sectional study was made on 286 subjects (stratified multistadial sampling; 6% sampling error, 95%C.L.). The smoking prevalence was evaluated using a questionnaire. The unstimulated salivary cotinine were measured using NicAlert™ Saliva. CPI was recorded by clinical examination (W.H.O. 1997 criteria). Statistics used SPSS 12. **Results:** the questionnaire's analysis shared the subjects in**:** nonsmokers 160 (55.9%) and smokers 126 (44.1%). The cotinine levels were**:** 0 for 47 subjects (16.4%), 1 for 103 subjects (36.0%), 2 for 19 subjects (6.6%), 3 for 26 subjects (9.1%), 4 for 28 subjects (9.8%), 5 for 42 subjects (14.7%), 6 for 21 subjects (7.3%). The mean number of sextants in each CPI category was**:** 1.60±2.05 for score 0 and 0.55±0.95 for score 1 - both significant higher in nonsmokers vs. smokers ($p<0.05$; ANOVA); 1.73±1.65 for score 2 and 1.13±1.65 for score 3 - both with no differences in nonsmokers vs. smokers ($p>0.05$); 0.41±1.09 for score 4 - significant higher in smokers ($p<0.05$; ANOVA). The mean number of sextants requiring professional treatment (CPI score 2, 3 and 4) was 3.27±2.06, significant higher in smokers ($p<0.05$; ANOVA). There were significant associations between smoking,

salivary cotinine and number of sextants requiring professional treatment ($p<0.05$; Kendall's tau b). **Conclusions:** these results showed that smokers had evidence of more severe periodontal disease than nonsmokers; the salivary cotinine were correlated with the demand for curative periodontal treatments assessed by CPI.
Aknowledgements**:** This work was funded by CNCSIS–UEFISCSU, project PNII–IDEAS 1216/200

Keywords: smoking, saliva, cotinine

3. PRINCIPLES OF MANAGEMENT IN ORAL REHABILITATION OF THE PATIENT WITH HEMATOLOGICAL DISEASES

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Romania

It is well known that in dentistry, the case of patients with hematological diseases often arise problems to practitioner. Especially those patients with hemophilia, leukemia, lymphoma and thrombocytopenia are requiring special dental care, fact that implies collaboration with hematologist in handling such cases. Our study comprised cases of patients hospitalized during the period 2010-2011, in the hematology department of the Clinical Hospital of Sibiu, who needed dental care, too. Thus, the aim of the present research was to present three cases of patients with different forms of hemophilia, the case a patient with Hodgkin lymphoma and Giant-cell tumor and the case of one patient with idiopathic thrombocytopenic purpura, diagnosed de novo after a prophylactic dental examination. The aim of our study was not only to emphasize the importance of revealing treatment particularities for whose who are the carriers of the disease, but also to individualize them for each case, separately. In conclusion, the dentist's role in early detection of hematological disorders may be decisive for the case evolution, and therefore, coworking with hematologist is mandatory in ensuring a proper management also for the patient and for reducing the high costs such general patients' treatments involve.

Keywords: dental management, oral rehabilitation, hematological diseases

4. RECORD AND EVALUATION OF A PREVENTIVE PROGRAM IN A VILLAGE OF GREECE COMPARED TO A TOWN OF GREECE

Almagout Petros, Sotiri Venetia, Vasiliadi Christina, Tzoumaka Artemis
Greece

Introduction: The level of oral health in a population greatly depends on the level of education and the financial situation of the patients. The qualitative improvement at the health system depends on social, professional, financial situation of a country. Preventive dental treatment mainly exists in the most civilized countries although nowadays every person should demand the best medical and dental treatment.
Materials: The aim of this research is the record and the evaluation of a preventive dental program in a degraded area of Athens compared to a village. The research took place at the dental clinic of a hospital of Athens in cooperation to a hospital of a village town. The sample consists of different kind of ages, and sex, social and financial level. We examined the plaque index and gum bleeding and we filled a questionary paper.We scaled and improved the oral hygiene of the Childs and we gave instructions for the good oral hygiene
Conclusions: After the research we came to the conclusion that most of the Childs were with bad oral hygiene. This improved at the time of the preventive program by the provocation of dentists. The gingivitis decreased since the oral care became more intense. But increases after a while in the area of ATHENS by the low social and educational level of the area, on health issues and the less visits of our dental teams since there is no preventive programmes in general hospitals. The good oral hygiene of a population greatly depends on the level of education on health issues and the provocations of the dentists. We need to increase the preventive programs in general hospitals in order to become more intense in the consciousness of the patients concerning the need for good oral hygiene. We should finally insist on individualized programs which are guided by the patients needs

Keywords: preventive dentistry

5. PATIENTS' HABITS REGARDING ORAL HYGIENE ON IMPLANT PROSTHETICS

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Romania

Introduction: Oral hygiene is very important for the patients with dental implants. Our study's aim was to evaluate the habits regarding oral hygene of patients with prosthetic constructions on dental implants.
Materials and methods: In our study we made a statistical analisis of a questionnaire we applied to a group of 35 patients who posess prosthetic constructions on dental implants. The prosthetics were single crowns, bridges and mobile constructions. The questionnaire had 29 questions which were divided in three sections. These sections regard the patients' perception about implant treatement, patients' cleaning habits and an evaluation of patients' implant prosthetics. The present study analises the main 9 questions regarding oral hygiene of dental implants. These questions were about brushing and dental brushes, auxiliary cleaning devices, chemical antiplaque agents and regular clinical assesements by a clinician. They also were about the use of plaque disclosing agents and the sources of information regarding oral hygiene for the patients with dental implants.
Results: Most of the patients don't use a proper soft toothbrush, chemical antiplaque agents and don't present to regular clinical assesements. Many of them have never

been taught to use a plaque disclosing agent at home.
Conclusions: Many patients have a certain risk of developing gingival inflamation around implants and periimplantitis. Romanian dentists should take more time to teach and motivate the patients with dental implants for oral hygiene and insist for regular visits at the dental office. Dental hygienists could also be a solution for this problem. Further clinical data are necessary in order to asess implant health at romanian patients.

Keywords: hygiene, implant, questionnaire

6. STUDY REGARDING UTILIZATION OF MANAGEMENT, PREVENTION AND ERGONOMICS IN DENTISTRY IN ROMÂNIA

Naicu Vlad, Sergiu Drafta, Ana Petre, Radu Stanciu
Romania

Aim**:** The main objective of the study is to find out the training level in ergonomics, prevention and management of staff in modern dentistry. This objective will provide courses that will increase adaptability of workers, promoting flexible forms of work organization and professional training.
Materials and methods: The total volume of the sample was 300 subjects allotted to the five national development centers that participate at the study**:** Bucharest, Ilfov Bucharest, Iasi, Constanta, and Timisoara. Maximum error is +/- 4.0% at a confidence level of 95%. Data collection is done by a questionnaire survey. Questionnaires will be filled by the face to face, method in the dental office. Interpretation of results is achieved by medical Biostatistics; results are among others**:** 79% of respondents believe that dental office management increase efficiency in the office activities and ensure a continuous development of business (63%). A significant proportion (27%) believe that management can ensure the flow of patients in the office that represents an important element for a healthy long term business. 86.80% respondents believe that universities should offer more postgraduate courses in Dental Ergonomics. 73.0% of the subjects declare that the preoccupation for infection risk influences their clinical decision. The concern for infection transmission prevention was found to be higher in female than in male subjects and in the 35–45-years age group ($p < 0.05$). Half of the investigated practitioners (50.4%) collaborate with a dental assistant and 83.4% of the subjects are periodically tested for blood-transmitted diseases.
Conclusions: Extended programs are necessary in order to promote an eficient perception of the management, ergonomics and prevention tools in dental medicinein Romania.
Acknowledgments**:** This research supported by the European Project WAS Ergonomics, Prevention and performance management in dental medicine by adopting European Standards Contract**:** POSDRU/81/3.2/S/55651, 2010-2013

Keywords: management, prevention, ergonomics

7. POSTURAL STATUS INVESTIGATION MATERIALS AND METHODS: IN DENTAL MEDICINE

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Romania

Posture status is necessary for maintaining a high health status in the workplace. Procedures performed in dental medicine by physician require a special position with health consequences. To determine an optimal postural status, investigations upon affections due to a poor posture, are necessary. In this order different postural investigations were made by using non-invasive methods, such as ultrasound (ZEBRIS), optical digitizer (INSPECK 3D), digital biometry (PEDANA) and thermography (FLIR B200). Also by using the AnyBody Modeling System software the minimum energy consumption in terms of posture was determined, and thus the optimal working posture for the dentist. The methods presented allow an accurate diagnosis, particularly for dentists, using specific means and methods configured to work according to changes in human posture. The methods are noninvasive so the subject is exposed to as little radiation or other harmful effects.

Keywords: posture, ergonomics, nonivasive, modeling, simulation

8. ATTITUDES AND PERCEPTIONS OF ROMANIA'S POPULATION ABOUT DENTAL HEALTHCARE SERVICES

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Romania

Introduction: In Romania, the fast development of the dental healthcare services is happening faster than the increase of the population's economical accessibilities to these services. We proposed a market study by evaluating the perception that Romania's population has regarding the dentists and the dental healthcare services provided.
Materials and methods: This study was made by IRES (The Romanian Institute for Strategy and Evaluation) by the request and with the aid of College of Dentists Romania, Cluj Departement. The method CATI (Computer Assisted Telephone Interviewing) was applied. The number of interviewed people was 1200, of age 18 and older, from the urban areas and the type of sampling was multi-layered, probabilistic and representative at the national level. The maximum tolerated error is ± 2,9%. The study was done in march 2011.
Results: The professional preparation of the physicians is appreciated as very good by 24% of the population and good by 59%. Only 3% of the patients believe that the Romanian physicians are poorly or very poorly prepared. Romanian patients believe that the most well prepared dentists are in Bucharest, followed by those in the

Transylvania-Banat area, in which Cluj is on the first place. 76% of them believe that the medical practice is well and very well equipped and 5% believe that it's not. 80% of the Romanians go to the dentist regularly and 61% chose the dentist by the recommendation of a relative or friend. 49% of the patients had discontents about the received services and 50% declare they were always satisfied.
Conclusions: The study proves a just and critical appreciation of the dental healthcare services by the patients. The interpretation and the processing of the results give the dentists a good orientation in the private medical practice's management.

Keywords: dental healthcare services, medical practice, accessibilitie to medical services

9. ORAL HEALTH RELATED QUALITY OF LIFE IN ELDERLY PEOPLE

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Serbia

Introduction: Loss of some or all of the natural teeth may be experienced either as a restricted local body injury or a socially limiting condition. Many older adults have problems with chewing, difficulty in eating and social relationship because of the loss of teeth. These problems may affect in their quality of life.
The aim of this study was to assess changes in OHRQoL among patients before and after having placement dentures using OIDP index.
Materials and methods: 63 functional independent patients were studied, being 51,0% females and 49,0% males, all were aged ≥65 years. Patients were interviewed by a single trained interviewer using OIDP (Oral Impacts on Daily Performance) index which had been translated into the serbian language, tested and validated for use in Bosnian population. The OIDP questionnaires focused on the impact of oral health on the performance of 10 daily activities. Oral health status and quality of life were assessed before and after an adequate prosthetic treatment. The OIDP score expressed as the sum of the different performance scores dividid by the maximum possible score, and then multiplied by 100 to provided a percentage score.
Results: When comparing results before with the results after prosthetic treatment statistically significant difference existed with regard to the following daily activities**:** eating, speaking, laughing, emotional state, going out and enjoying the contact with other people ($p<0,05$ i $p<0,01$). The mean OIDP scores for the patients before and after treatment were 13,0 and 3,2, respectively. There were significant differences between OIDP scores for all subjects before and after prosthetic treatment ($p<0,001$).
Conclusions: This study showed that patients after treatment reported lesser impact on OHRQoL compared to results before treatment. Also, it demonstrated a great improvement in all performances in patients after placement of dentures.

Keywords: oral health status, quality of life, elderly

10. MUTANS STREPTOCOCCI AND SUGAR CONSUMPTION LEVELS AMONG SCHOOLCHILDREN IN IASI

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România

Introduction: Assessment of oral health risk factors is crucial for the implementation of efficient methods to improve oral health. The aim of the present study was to determine the levels of mutans streptococci (MS) and sugar consumption among schoolchildren in Iasi.
Materials and methods: The study was cross-sectional and it was carried out in 2010. The study sample was representative, randomly selected using the probabilistic method and included 533 children aged 7-12 years. Participants and parents' informed consent was obtained. Evaluation of MS level used the Dentocult®SM Strip mutans kits and was performed on teeth surfaces and in saliva. 4-days self-administered questionnaires were used to assess the carbohydrates content of the diet and the frequency of carbohydrates consumption. Data were statistically analyzed with the SPSS 15.0 program and compared with the chi-square test.
Results: Score 3 (over 10 6 CFU/ml MS) was predominant on both mesial and occlusal surfaces of upper and lower first permanent molars. Score 0 (less than 10 4 CFU/ml) was found on the mesial surfaces in 26.64% of the children and on the occlusal surfaces in 26.08% of them. Almost half of the 7-year-old children presented over 10 6 CFU/ml MS on the mesial and occlusal surfaces of the first molars, while in 12-year-olds the four scores were approximately evenly distributed. 30.96% of the examined children presented 10 5 - 10 6 CFU/ml MS in the saliva, and score 3 was predominant in 7-year-old children (47%). Moderate carbohydrates consumption was found in most of the studied children (43.71%). 61.16% of the subjects declared high frequency of carbohydrates consumption (maximum 7 times a day).
Conclusions: Most of the schoolchildren in Iasi present high levels of mutans streptococci and high frequency of sugar consumption.

Keywords: schoolchildren, mutans streptococci, sugar

11. DENTAL STATUS OF ADULTS IN RELATION TO DEMOGRAPHIC FACTORS

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Bosnia and Herzegovina

Introduction: Over the years, a marked decline in the prevalence of oral disease has been observed in several Western industrialised countries. Because of the economic and political changes in Eastern Europe, oral health system is now in transition. Besides, in most of East European

countries the epidemiological tradition is relatively weak and regular regional or national oral health surveys has not been carried out. The aim of this cross-sectional study was to evaluate the dental health status of adult population in Republic of Srpska, Bosnia and Herzegovina and its relationship with urbanisation and level of education.

Materials and methods: A total number of 211 35-44-year-olds and 168 65-74-year-olds were selected by random sampling from six areas of eastern region of Republic of Srpska, Bosnia and Herzegovina (3 urban and 2 rural). Dental caries status was evaluated using the World Health Organization caries diagnostic criteria for decayed, missing and filled teeth (DMFT).

Results: The mean DMFT values for 35-44 and 65-74 year-olds were 20.6 and 27.7, respectively. Nearly all persons of ages 35-44 had natural teeth, whereas 36.9% of 65-74-year-olds were edentulous. In both age groups, the prevalence of caries (DT) was higher among males than in females. With respect to urbanisation, DMFT was significantly higher among 65-74-year-olds in rural areas ($p<0.05$). There was significant difference in mean values of DMFT, DT, FT and MT among the subjects with different levels of education. Furthermore, significant correlation existed between the participant's level of education and DMFT (rho=-0.563, $p<0.01$), MT (rho=0.560, $p<0.01$) and FT (rho=-0.455, $p<0.01$).

Conclusions: The present study reveals that dental status of adults in investigated region is influenced by demographic factors such as gender and urbanisation, as well as by level of education.

Keywords: adults, dental caries, DMFT, education level

12. LEGISLATION AND MANAGEMENT IN THE DENTAL OFFICE

Delia Barbu, Ramona Amina Popovici
Romania

Introduction: The dental office is defined as a unit which supplies public, state and private services and human medical assistance of prevention, recovery and emergency. According to the legal rules, the health services are managed in the dental offices and they are done by doctors (dentists, specialists), and other categories of authorized medical staff (nurses, profilaxy and dental hygienists). Approval and health activities authorization is required to go down under legal rules. Certificate of registration in a unique private medical practice in the local health authorities, is the founding document of the cabinet. Private medical record from the public finances direction is a compulsory activity provided by law. Fiscal Code sets the legal framework for the taxes that are revenues to the state budget, appoints the medical center as a taxpayer who must pay these taxes and the procedure for taxation (calculation and payment).

Method: The evaluation of the accessibiltity to the dental medical services regarding its management (a private dental office, a grouped dental office, a dental office in association with somebody else, a civil medical group).

Results: The target of a dental office is considered to be a positive result which should be obtained in the future by the health structure, taking into account the following**:** conclusive results on the patients (the quality of the services, the degree of accomplishment); serios internal achievements, done by the medical team (profesionist or financial- material ones).

Conclusions: The mission of a dental office expresses the purpose for which it was created, its reason in relation with the market of health services and also with the already known clients or the potential ones. When defining the target there are mentioned the intentional elements, the typical groups of patients, the already existent basic needs, as well as the achievements of the dental office.

13. DENTISTS ERGONOMIC KNOWLEDGE AND ATTITUDES IN NORTH-EST REGION, ROMANIA

Lucia Bârlean, Ioan Dănilă, Iulia Săveanu
Romania

The ergonomic education of the dental health-care personnel must focus on the considerable occupational health risks.

Aim. The aim of this study was to assess the dentists' knowledge and attitudes towards ergonomics during dental health-care.

Materials and methods: A questionnaire-based study was conducted including 152 dentists (72,4%-females, 27,6%-males) aged between 25-65 years, from North-Est Region, Romania. The questionnaire included 13 questions related to ergonomic practices in the dental office. Data were statistically analyzed using the SPSS 14.0 program and chi-square test ($p<0.05$).

Results: 51,3% of the dentists work 4 to 7 hours and 34,9% work over 7 hours per day. The majority of the subjects appreciate that ergonomics does not imply loss of working time-70,4%. 50,4 % of the dentists collaborate with a dental assistant which is involved in the aplication of the Four Handed Dentistry in 38,8% of cases. 83,6% of the subjects consider that post-graduated courses are important for their ergonomic education. One third of the dentists-30,9% adopt a orthostatic position and 19,1% use the sitting position during 90% of the time of the working day. The patient is positioned in sitting or horizontally position over 90% of the working time by 17,8% and respectivelly 14,5% of the dentists. The subjects indicated musculo-scheletal disorders affecting the cervical spine-52,0%, the lombar spine-52,0%, the right shoulder-26,3% and the right arm-8,6%. The main simptomes included pain-71,7% and functional limitation-27,0% and imposed medical examination-39,5%, medication-33,6% and rest for one or more days-29,6%. 44,1% of the dentists practice phisical exercises once and 33,6% twice a week.

Conclusions: Dentists' knowledge and attitudes towards ergonomics should be improved and updated by educational programmes in order to reduce the incidence of occupational pathology and improve the quality of the dental health-care.

Acknowledgements**:** This research was supported by the European Project „ Ergonomics, prevention and performant management in dental medicine by adopting

european standards Contract**:** POSDRU/81/3.2/S/55651, 2010- 2013 –Project funded by European Social Fond Invest in People''

14. EVALUATION OF FLUORIDATED SALT CONSUMPTION IN TIMIS COUNTY POPULATION

Podariu Angela Codruta, Popovici Ramona Amina, Oancea Roxana, Sava-Rosianu Ruxandra
Romania

Introduction: The aim of this study was to examine the fluoride salt consume in order to gauge whether systemic salt fluoride is indicated in Romania. Remarkable progress has been attained over the last decades in improving oral health and controlling dental disease in population. Dental caries remains a serious problem in Romania where the mean DMFT was one of the highest in Europe indicating the need for implementing community prevention programs.
Materials and methods: We conducted a pilot study investigating the questionnaire to 50 people to assess the consumption of fluoridated salt in Timis County population. The questionnaire included 20 questions which was intended**:** if they know the beneficial effects of fluoride in preventing dental caries, the type of salt consumed, if they know about the existence in the trade of fluoridated salt, food habits on the consumption of salt, use of oral care toothpaste fluoridated and fluoridated mouthwash.
Results: Results showed the following**:** 43% of respondents did not know about the beneficial effects of fluoride in preventing of dental caries, 86.66% do not know about fluoridated salt in trade, 67% do not know what kind of toothpaste and mouthwash use.
Conclusions: It is evident that the fluoride salt consume in Timis County from Romania are among the lowest when compared to the available European data, but the same with Romanian average. That means that there is room for increasing fluoride supply by so-called systemic salt fluoride for prevention of dental caries. This study relived that most of the people don't know about the importance of fluoride and fluoridated salt consumption, so it would be necessary in future to do a broader study, accompanied by information campaigns.

Keywords: dental caries, fluoridated salt consumption

15. PROPHYLAXIS IN PERIODONTAL DISEASE AND EARLY DIAGNOSIS WITH CYTO-IMMUNOHISTOCHEMICAL EVALUATION

Atena Galuscan, Liliana Vasile, Roxana Oancea, Daniela Jumanca, Angela Podariu
Romania

Introduction: The inflammatory lesions in periodontal disease (PD) have a negative impact on the whole organism causing the appearance of dental infection and generating infection in the whole body.
Materials and methods: We examined 85 patients, 37 of them being diagnosed with chronic periodontal disease (confirmed by periodontogram and radiology assay) and 48 clinical healthy patients without inflammatory symptoms and loss of periodontal tissue. We performed early diagnosis and screening of PD, using salivary citodiagnosis, from sulcular liquid, and periodontal pockets using the APT-Dragan technique. Statistical analysis was made using sensibility and specificity indicators of the cytological method. Evaluation of exfoliated cells or cells obtained from tissues, allows us to obtain useful information and establish the cytology classes (C1, C2, C3, C3a, C3b). Immunohistochemical study (IHC)**:** In order to determine immunohistochemical reactions we applied a coloring technique using monoclonal specific antibodies, which react to specific tissue antigens, on surgical obtained tissue samples. In order to establish the pathological process in chronic periodontal disease we investigated the behavior of some categories of markers**:** epithelial (CK) and mesenchimal (CD31).
Results: The IHC study evaluated the immunologic reactivity of morphological tissues to some markers of epithelial differentiation (CK). For some of the cases, we tried to establish a correlation between the degrees of disease and the cytology class observing all clinical and radiological aspects of patients as well as interpreting cell cultures, and the results show clearly that periodontal diagnosis can be completed with cytology class diagnosis. Interpreting cytology cultures allows a correlation between the lesion grading and estimating the prognostic of disease.
Conclusions: This paper sustains the idea that interdisciplinary research in PD, in order to elucidate some less known aspects of the disease is useful in order to set the basis for the early diagnosis and prognosis of PD in patients without clinical symptoms.

16. SMOKING BEHAVIOUR AND ATTITUDE IN ROMANIAN DENTAL STUDENTS

Stela Carmen Hanganu, Alice Murariu
Romania

Introduction: Tobacco represents the single most preventable cause of disease and death in the world today. The aims of this study were to assess: the oral health status, the smoking prevalence, its effect on dental health attitudes and behaviour among dental students in Iasi, Romania, and their attitudes, in providing programs to patients for giving up smoking
Methods: A cross-sectional study of 122 dental students was conducted at "Gr. T. Popa" University of Medicine and Pharmacy of Iasi, Romania, Faculty of Dental Medicine. A self-administered questionnaire based on ""SANFACTOR EXPERT SYSTEM"" was distributed among fifth-grade dental students from November 2010 to February 2011. Multivariate logistic regression analyses were performed to study differences between smokers and non-smokers.
Results: The response rate was 95.9%, with 36.70% males and 63.30% females. The prevalence of smoking was 43%. Smoking was more prevalent among female students

(59%) than male (41%). About 48% the students had started smoking before entering the university. However, most of the students who smoked had started after entering the university. The multivariate logistic regression analysis showed some items that were different between smokers and non-smokers. Non-smokers tended to brush their teeth more often than smokers (OR 9.57, 95% CI 2.75-42.28); they spent more time brushing their teeth than smokers (OR 11.67, 95% CI 1.98.0-64.07); were more concerned about having bad breath (OR 44.34, 95% CI 3.87-61.74) and were more concerned about the colour of their gums (OR 9.14, 95% CI 2.58-42.59). The rate of students who answered that they want to learn how to conduct smoking cessation programs for patients was 59.8%.
Conclusions: It is necessary to introduce smoking cessation programs in Romanian Dental Medicine Faculties and to provide lectures on tobacco and health issues as well as practical training programs about giving up smoking in the dental education curriculum.

Keywords: smoking, behaviour, attitude, smoking cessation

17. MANAGEMENT OF SOCIALLY ASSISTED PATIENT IN SANODENTAPRIM PROGRAMME

Ilea Aranka, Campian Radu Septimiu, Moga Minodora, Buhatel Dan, Lucaciu Ondine, Sava Arin
Romania

Introduction: The current poor socio-economic situation leads to an increasing number of people of Cluj-Napoca to become socially assisted. To meet this need, SANODENTAPRIM programme was started as a partnership between the Cluj-Napoca City Hall and the University of Medicine and Pharmacy of Cluj-Napoca through the Faculty of Dentistry. The objectives of this project were to assess and improve oral health of the group of disadvantaged population in Cluj-Napoca and to provide comprehensive oral rehabilitation for these patients with the involvement of students and resident doctors from the Faculty of Dentistry.
Material and method: SANODENTAPRIM programme started in April 15, 2010 and lasted until December 31, 2010; it was accessed by a total of 1419 patients. Criteria for inclusion in the program were established and monitored by the Cluj-Napoca City Hall in agreement with the socially assisted person databases. Involved in this programme were: students in the IVth, Vth and VIth year of study from the Faculty of Dentistry, oral and maxillofacial surgery resident doctors, dento-alveolar surgery resident doctors, periodontology resident doctors, endodontics resident doctors, prosthodontics resident doctors, academics, the Faculty's departments of medical imaging, dental laboratories. Having in mind that this disadvantaged population group showed a high prevalence of associated general pathology, all patients were asked to consult their general practitioner. Chronic medications of these patients were also evaluated as well as its interference with dental treatments.
Results: The prevalence of associated general pathology on the socially assisted population was of 98%. The study group included 59% women, and 41% men. Heart diseases existed on 36% of the patients, liver diseases on 12%, 11% have reported allergic reactions to medications and local anaesthetics, and 84% of the patients were on chronic medication for various general diseases.
Conclusions: Assessment, dental diagnosis and comprehensive dental treatment were correlated with associated general pathology which necessitated a judicious management of patients' preparation for removal of dental infections or other infections in the oral cavity. The high prevalence of associated diseases is explained by the choice of patients and by the large number of geriatric patients.

Keywords: socially assisted patient, management

Oral Surgery

1. POSITION OF MENTAL FORAMEN AND THE MENTAL NEUROVASCULAR BUNDLE

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Bosnia and Herzegovina

Introduction: Clinical assessment and identification of the mental foramen is of great importance in clinical practice, especially when performing surgery in the lateral segment of the body of the lower jaw. Its precise location is a necessary condition for the start of any surgical procedure in the mentioned region.
Purpose**:** The aim of this study was to determine, during the surgical intervention, localization of mental foramen in relation to adjacent teeth; also, to determine the distance from mental foramen to the top edge of alveolar ridge.
Materials and methods: Twenty patients who needed surgical treatment in this region were included in the study. After raising a mucoperiosteal flap, neurovascular bundle was identified; then, on the upper half of the neurovascular bundle was placed sterile cardboard.A probe was used to mark a point that touches the limbus alveolaris and this record is transmitted to the vernier caliper and then distance from the mental foramen was measured (in the vertical plane). During identification of the neurovascular bundle, its relative position to the adjacent teeth was evalueted.
Results: The most common position of the mental foramen was between first and second lower premolar. Average distance between mental foramen and limbus alveolaris was 13.83 mm, with confidence interval of 95%.
Conclusions: As location of the mental foramen is significant in clinical practice, our results represents a contribution to the determination of the anatomical details of special importance, when working on the body of the mandible.

Keywords: foramen mentale, neurovascular bundle,mental foramen position

2. MANAGEMENT OF DISLOCATED TEETH IN PTERYGOMANDIBULAR SPACE

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Greece

Introduction: Surgical removal of the mandibular third molar is a common surgical procedure in dental practice, and like all operations, it carries risks and complications, such as infection, bleeding, nerve injuries, trismus etc. An accidentally dislocation of the lower third molar is a relatively rare complication, but may cause severe tissue injury and medicolegal problems. Dislocation in pterygomandibular space happens during lower third molar removal, when the lingual alveolar plate is thin or absent, and the operator misses the finger protection against lingual movement of the tooth, or its root.
Case report: Two representative cases are presented; in the first the whole tooth was displaced lingually and was removed in the Dept of Oral and maxillofacial Surgery under local anesthesia, through a small incision, parallel to the lingual nerve course. In the second case the root of the third molar was deeply displaced, near the attachment of the medial pterygoid muscle to the mandible. General anesthesia and a wider approach were necessary for the root removal.
Conclusions: The functional integrity of the lingual nerve is the main goal in the management of tooth dislocations into pterygomandibular space. Thus, a thorough radiological study sometimes with CT scans preoperatively and a mindful surgical approach are needed to avoid undesirable complications. In the literature the extraoral approach is referred as unavoidable choice in some cases. General dentists should decide whether they should try to retrieve the dislocated tooth or roots, or they should refer the case to an oral and maxillofacial surgeon.

Keywords: lower third molar dislocation, pterygomandibular space, surgical management

3. EVALUATION OF MINPLATE OSTEOSYNTHESIS FOR FIXATION OF CONDYLAR NECK FRACTURES

Tiberiu Nita, Octavian Dinca, Vasileios Panagopoulos, Cristian Vladan, Alexandru Bucur
Romania

Introduction: Fractures of the mandibular condyle are relatively common injuries. In this study, we aimed to set up a mathematical, computer-based model using finite element analysis to simulate different types of osteosynthesis and the process of bony healing.
Materials and methods: A finite element model of the condyle was generated on the basis of computed tomography data. The data consisted of 246.901 3D elements. Three types of load were applied.
Results: The finite element linear static analysis resulted in relevant positioning of different plates to achieve stable fixation of condylar neck fractures.
Conclusions: The method of fracture simulation employed showed good agreement with known clinical data and data from prior mechanical testing. This substantiates the validity of fracture simulation for future studies examining condyle fractures, fracture healing and prevention.

Keywords: condylar fractures, finite element

4. TREATMENT OF DIABETIC PATIENTS IN MINOR ORAL SURGERY

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Greece

Introduction: Diabetes Mellitus is a multi-factorial syndrome characterized mainly by the malfunction of the metabolism of the carbohydrates and of the fats. Clinically, the glucose level is rising on patients with diabetes. The etiology of the syndrome is unknown. However, it is influenced by multiple extrinsic factors on a genetically predetermined level.
For the clinical dentist, the detection of patients with diabetes mellitus helps on the prevention of serious problems in the healing process of the post extraction wounds. At the time of the minor alveolar surgery, patients with uncontrolled diabetes mellitus are more susceptible to microbes and this is the reason why special care should be provided in order to avoid further complication.
Materials and methods: The study was carried out on patients of the dental department of the Western Attica, General Hospital of which suffer of diabetes mellitus and there was a need of oral surgical operations (extractions, periodontal therapy etc.)
Results: The diagnosis and the treatment of the diabetes mellitus in patients with dental problems, prior to the oral surgical operation would be examined. The avoidance of post operation complications would be considered.
Conclusions: The post operational healing on patients with diabetes mellitus can be a challenging task and the patient may need a longer time for compete healing comparing with a healthy individual. For the prevention of the patients with diabetes mellitus, it is essential to keep the basic principles of the surgery procedures like the asepsis, hemostasis and mainly the carefully operational handling of the tissues in combination with the shortest possible duration of the operation.

Keywords: Diabetes Mellitus, post operational healing, hemostasis

5. POTENTIAL CLINICAL APPLICATIONS OF DENTAL STEM CELLS

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FYROM

Human stem cells have characteristics that differ them from other cell types. They are unspecialized, have an ability for long term self renewal and under certain

conditions they could transform into other cell types with specific functions. The most important application of the stem cell is their use in cell-based therapy. The modern medicine is focused on the newest experimental and clinical studies for cell-based therapies in the treatment of the cardiac and neurological diseases, diabetes and blood oncological diseases. The number of diseases treated with this new, modern and biological way is updated every momentComplex human tissues harbor stem cells and/or precursor cells, which are responsible for tissue development or regeneration. Recently, dental tissues such as periodontal ligament (PDL), dental papilla or dental follicle have been identified as easily accessible sources of undifferentiated cells. Dental precursor cells are attractive for usage in regenerative dentistry, like for example regeneration of the dental pulp (biopulp), gingiva and periodontium, regeneration of osseous defects and complete reconstruction of the temporomandibular joint. Dental stem cells are widely used in the regenerative medicine, also. Diabetes, diseases of the bone, cartilage, fibrous tissue, muscular and adipose tissue, the neurological diseases and the spinal cord injures are all included in the future cell-based therapies with dental stem cells.

Keywords: dental stem cells, dental precursor cells, bone-marrow-derived mesenchymal stem cells, dental tissues, regenerative dentistry, cell-based therapy

6. CYTOLOGICAL ANALYSIS OF TONGUE EPITHELIUM AFTER USE OF TOPICAL BIOSTIMULATION LASER THERAPY AMONG INDIVIDUALS WITH GLOSSOPYROSIS AND HYPOCHROMATIC ANEMIA

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FYROM

Among other ethiological factors that could be related with the onset of this complex symptom, and being most frequent, too, is hypocromic anemia.
Through cytological analysis of tongue epithelium we tried to objectifie the impact of laser light in the therapeutic treatment of patients with with glossopyrosis and hypochromic anemia.
Clinical examinations revealed that among the representatives of the study group, beside subjective complain, alterations on the surface of the tongue could be seen (atrophic signs and metabolic furrowed tongue).
Epithelial cytology investigation offered findings of tongue epithelial alterations. Besides disturbances in the keratinization and presence of degenerated epithelial cells, reduced thickness of tongue epithelium and positive findings for akantosis and tytotic activity was found.
These findings denote to disturbances in oxygenation in the structure of oral mucosa, being the result of biochemical and metabolic processes changes in the organism caused by hypochromatic anemia.
Topical biostimulating laser therapy has proved to produce positive effects in regulation of disturbed tongue epithelium keratinization, and by stimulation of mytotic activity and enhanced oxygenation, regeneration and reparatory mechanisms are being stroke.

Key words**:** glossopyrosis, tongue epithelium, laser therapy

7. SURGERY AND ORTHODONTIC EVOLUTION OF CLEFT LIP AND PALATE IN MOROCCO DURING 30 YEARS

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Morocco

Introduction: Since 1981, we supported 657 cleft lip and palate. There are adults who have never been operated, or children in care from birth. The objective of this paper is to present the advancement of surgery and orthodontic treatment of our patients.
Materials and methods: Surgical techniques. We used for the cleft lip different techniques**:** Tennisson, Skoog-Malek, Millard. and for the cleft palate the Wardill – Kilner technique.The maxillo-mandibular sequelae (class III of Angle) took over the total bimaxillary osteotomies often, rarely segmental osteotomies. From 1981 to 1990, we were forced to do this surgery without the benefit of orthognathic orthodontics. Since 1990, the multi disciplinary collaboration, especially surgeons - orthodontists, has transformed the outcome of these patients. Orthodontic preparation for orthognathic surgery requires an average of one year and post-surgical othodontic contension six months. Population**:** Patients come from all cities of Morocco and even neighboring countries (Mauritania, Mali, …).
Results: The estimated rate of satisfied patients is 63%. The multiple sequelae of cleft lip and palate have required repeat surgery in 24% of cases. We illustrate our presentation**:** cases of patients who were operated on adulthood and who have not benefited from orthodontic treatment; cases of patients undergoing surgery for their cleft lip and palate at birth. Their maxillo-mandibular legacies (class III) were supported by the orthodontist and the surgeon at the end of adolescence.
Conclusions: Support for multi-disciplinary (surgeon - Orthodontist - dental occlusal -...) has improved spectacularly the management of cleft lip and palate in our country.

Keywords: cleft lip and palate - Morocco - orthodontic and surgery care

8. SURGICAL BYOPSI IN THE DIAGNOSIS OF HAED AND NECK MALIGNANT LYMPHOMAS

Alberto Benedetti, Vladimir Popovski, Danica Popovic-Monevska, Antonio Kirkov, Goran Panchevski, Aleksandar Iliev, Suzana Bozovic, Hristijan Gjorgievski, Trifun Panovski
FYROM

Surgical byopsi is an invasive technique to establish the

definitive diagnosis and to assess the exact teraphy for tretman of the malignant lymphomas. Diagnosis of malignant lymphoma is mainly based on the presence of enlarge lymph nodes and sometimes with spleen, and not everytime with general symptoms. Diagnosis requires a pathological analysis of a lymph node after a surgical procedure. One of the main localizations for malignant lymphomas is haed and neck area. The aim of this study was to assess the diagnostic accuracy of surgical byopsi of neck masses. This was a retrospective clinical study in a consecutive series of 46 patients during the year 2006-2009 treated at the University Clinic for Maxillofacial Surgery in Skopje.All the patients were treated operatively and diagnosis were confirmed histopathologically requiring specialised techniques. Significant differences were found in male to female ratio**:** 28 (60.9%) male and 18 (39.1%) female. The mean age of our patients was 42 years old. The mean age of male patients was 46 yaers old, and the mean age of female patients was 38 years old. The youngest patient was 16 years old and the oldest was 83 years old. 28 patients was diagnosed with Hodgkin lymphoma (nodular sclerosis et mixed cellularity classic), 17 with Non – Hodgkin lymphoma predominantly with diffuse large B – cell lymphoma, and 1 patient with Burkitt lymphoma.

Keywords: surgical byiopsi, malignant lymphomas

9. SIALENDOSCOPY FOR OBSTRUCTIVE MAJOR SALIVARY GLAND DISEASES

Alexandru Bucur, Octavian Dinca, Cristian Vladan
Romania

Introduction: Sialendoscopy was introduced with favorable results in the management of salivary duct stones. We recently attempted this new procedure to diagnose and remove sialoliths for the first time in Eastern Europe. We aimed to find out the clinical efficacy and limitations of that method.
Materials and methods: A retrospective analysis was conducted on the characteristics of sialoliths, preoperative work-up, postoperative complications and outcomes.
Results: In view of diagnostic sialendoscopy, the success rate was 100%, that is, we could detect sialoliths in all cases. In interventional sialendoscopy, the success rate was high; no major complications did not occur.
Conclusions: Sialendocopy is a new, minimal invasive procedure to visualize the entire salivary ductal system for the diagnosis of salivary duct stone. However, interventional sialendoscopy for the removal of sialolith is a delicate and technically challenging procedure, requiring strict size criteria of the sialolith and experience of the surgeon.

Keywords: sialendoscopy, salivar lithiasis

10. EVALUATION OF MANDIBULAR BONE DENSITY IN PATIENTS WITH DIABETES USING THE COMPUTERIZED TOMOGRAPHY SCAN

Alexandru Nemtoi, Gabriela Geletu, Anca Indrei, Oana Ladunca, Danisia Haba, Ana Bamboi
Romania

Introduction: Low bone density is often mentioned as a complication of diabetes mellitus. Most studies indicate that it is a complication for patients with insulin-dependent diabetes mellitus, especially those with poor metabolic control. Only few studies have evaluated mandibular bone density in patients with diabetes. The aim of this study was to investigate the effect of type 1 and type 2 diabetes and insulin treatment on mandibular bone density.
Materials and methods: We measured mandibular bone density on CT scans, made with the dental-CT software, belonging to 15 type 1 and 15 type 2 diabetic patients and 30 healthy control subject. All patients, aged 45 - 75 years, developed diabetes after the age of 35 years. Bone density was measured in different mandibular regions, such as mandible angle, foramen mentale.
Results: Among both sexes, mandibular bone density values were significantly lower in type 1 diabetic patients than in type 2 diabetic patients or the control subjects. The following have been noticed**:** important changes to the cortical bone density on the right-left side of the menton hole and to the mandible cortical bone density at gonion to type 1 diabetic patients. The diabetic groups also had a greater percentage of subjects who were edentulous.
Conclusions: The lower mandibular bone density in type 1 versus type 2 diabetic patients and control subjects probably results from more rapid bone loss after the onset of type 1 diabetes. Because of the lower mandibular bone density in type 1 diabetes, these patients should be evaluated for the risk of osteoporosis and related fractures and offered appropriate preventive measures.

Keywords: bone density; mandible; diabetes; computed tomography

11. INJURIES OF MASSIVE FACIAL: FROM ANATOMY TO PATTERNS. A RADIOGRAPHIC EXAMINATION

Ana Elena Petcu, Danisia Haba, Oana Ladunca, Alex Nemtoi
Romania

Introduction: To be able to diagnose quickly and correctly injuries of facial massive is essential to know the CT sectional anatomy and possibility for extension of tumor and inflammatory lesions. The present study aimed at whether inflammatory processes are accompanied by complications of massive facial sinus or distinct variants from the normal development of the maxillary sinus.
Materials and methods: We analyzed a group by childrens composed of 73 patients aged between 3 and 25 years (34 boys and 37 girls), that presented anomalies in the upper jaw dentition, mucosal inflammation of pericoronarita type and maxillary sinusitis. Each patient was radiographic

explored by achieving a panoramic radiograph. Only 17 pacients underwent a spiral CT scanning which has allowed to locate and to analysis all the reports dental anomalies with anatomical neighboring structures. The CT images were interpreted using the following protocols which included**:** axial, multiplanar reconstruction (MPR), 3D images and association of axial/MPR/3D images. We evaluated the anatomical sites of lesions, dividing them according to the sinusal walls.We also compare the sensitivity of spiral CT with panoramic radiograph - ortopantomography.
Results: We evaluated that**:** 35% of patients suffered traumatic injuries, 8% tumor lesions, 2% anomalies of development.The most common lesions are inflammatory lesions which representing a 55%.
Conclusions: Massive facial trauma same patients are usually first evaluated with spiral CT, because it presents a higher accuracy than orthopantomography or massive facial radiography. Traumatic injuries should be evaluated with CT scanning as like as tumor lesions. Orthopantomography remains main radiological exam for diagnostic purposes, but for complicated cases are important the evaluations with CT scans with low dose.

Keywords: maxillary sinus, inflammatory lesions, computer tomography

12. DERMOID CYST OF THE PAROTID GLAND

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Romania

Introduction: Dermoid cyst in the head and neck area account for 7% of all dermoid cysts, with their predominant sites being orbital, submental, submaxillary and nasal regions. Dermoid cysts of the parotid gland are extremely rare. A dermoid cyst is the result of inclusion of epithelial cells along the lines of embryonic closure. The cyst contains ectodermal and mesodermal elements such as hair follicles and sebaceous glands. The preoperatively diagnosis is often difficult due to the absence of pathognomonic findings. Visualizing options like computed tomography, magnetic resonance imaging and ultrasound cannot give a conclusive preoperative diagnosis. The lesion must be differentiated from other cystic lesions and malignant tumors. The histopathological exam is the only one that can establish a certain diagnosis.
Case report: In 2008, a 20-year-old female patient presented with a swelling of the area of the right parotid gland. Physical examination showed a 2,5/2 cm in diameter soft mass in the superficial portion of the parotid gland. The process was moveable to the skin but not to the deeper tissue. The CT scan reveals a 2cm/2cm/2,5 cm round, well defined, soft tissue hypodense mass situated in the superficial lobe of the right parotid gland. The lesion was removed through a superficial parotidectomy followed by a sterno-cleido-mastoidian muscle mioplasty. Pathological examination of the surgical sample revealed a firm cystic mass. It contained a yellow, oily, acellular material. Microscopic features include a cyst lined by stratified squamous epithelium, into which were inserted a number of small hair follicles. The facial paralisis was transitory and had completely disappeared in about 2 month. There has been no sign of recurrence in our patient.
Conclusions: The dermoid cyst is extremely rare in the parotid gland. It is important to consider this lesion in the differential diagnosis of the parotid gland mass.

Keywords: dermoid, cyst, parotid

13. MANAGEMENT OF STAGE IV A ORAL SQUAMOUS CELL CARCINOMAS

Octavian Dinca, Cristian Vladan, Cosmin Totan, Tiberiu Nita, Alexandru Bucur
Romania

Introduction: The best therapeutic approach for the treatment of stage IV A oral carcinomas is controversial.
Materials and methods: A retrospective study was performed using patients with stage IV A oral squamous cell carcinoma treated with curative intent by different reconstruction modalities at Oral and Maxillo-Facial Surgery Department, University of Medicine and Pharmacy „Carol Davila, Bucharest.
Results: Patients with stage IV a oral carcinoma were treated by diverse modalities of reconstruction, depending on the extent of the defect, but the overall condition of the patient, from local flaps to free vascularized composite grafts.
Conclusions: None of the standard treatment modalities currently employed has a statistical advantage regarding survival, recurrence, complications, or quality of life.

Keywords: malignant tumors, reconstruction

14. CERVICAL ECTOPIC THYMUS: A CASE REPORT

Octavian Dinca, Alexandru Bucur, Cristian Vladan
Romania

Introduction: Due to their rare occurrence, cervical thymic cysts can be misdiagnosed as other cystic lesions of the neck.
Case report: A case of cervical thymic cyst is reported. A 6-year-old-boy presented with a painless neck mass. The preoperative diagnosis was cystic disease of the neck, based on CT and MRI study. At surgery, a cyst was extirpated and the pathological diagnosis was thymic cyst, which showed normal thymic tissue, in addition to granulation with areas of chronic inflammation.
Conclusions: Cervical thymic cysts should be taken into account in the differential diagnosis of neck masses.

Keywords: thymic cysts, ectopic

15. CONVENTIONAL DENTAL RADIOGRAPHIC MATERIALS AND METHODS: ARE SOMETIMES

NOT SUFFICIENT… THEN WHAT?

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Greece

Introduction: Cone Beam Computed tomography is a new imaging method that plays an important role in oral diagnosis, being a low dose three-dimensional radiographic technique. Conventional dental imaging techniques such as panoramic, periapical and occlusal radiographs are helpful but not always sufficient for investigation of the diagnostic problem. The major disadvantage of these methods is that they provide two-dimensional imaging of the jaws, offering no information on the third dimension which is frequently required for diagnosis. The aim is to present interesting cases where the selection of the appropriate imaging method along with complete medical history leads to the correct diagnosis and, therefore, the proper treatment planning for each patient.
Case report: Cases of patients with symptoms involving the maxillofacial area are presented that were referred for radiographic examination. After recording the medical and dental history, CBCT imaging was selected as the most appropriate imaging method for the correct diagnosis. The cases include a large periapical cyst, interradicular lesions, sinus communication and TMJ osseous findings, along with a case of jaw asymmetry. Moreover, cases are presented where the CBCT besides the information relevant to the patient's main complain, offered valuable additional information for the proper treatment of the patient, concerning not only the oral but also the general medical health.
Conclusions: Selection of the appropriate imaging method should be patient-based and not routine-based. When the conventional dental radiographic methods do not offer sufficient information on the diagnostic problem, advanced imaging techniques such as CBCT are found to be useful.

Keywords: Cone Beam CT; panoramic radiography; oral diagnosis

16. CRITERIA FOR THE THERAPEUTIC MANAGEMENT OF MANDIBULAR THIRD MOLARS

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Greece, Slovakia

Summary**:** The removal of a third molar is one of the most common intraoral surgical procedures. There are certain pathological situations determining the need for third molar extraction. (caries, infection etc.) However the management of asymptomatic third molars is still a matter of scientific controversy. Proponents of prophylactic removal of asymptomatic third molars, base their arguments on preventive goals and they argue that the benefits outweigh the risks. Although proponents of a conservative management argue that the scientific evidence is inconclusive to support prophylactic removal. There are some indications for the early prophylactic removal of third molars in specific cases, but there are no randomized controlled studies to compare the long term outcome of early removal with retention of pathology free third molars. In this paper we present cases of dyskeratosis and one case of dysplasia in tissue samples taken from the mucosal surface of twenty asymptomatic semi-impacted mandibular third molars. On this occasion we discuss the controversial matter of treating asymptomatic third molars. The idea of prophylactic removal of third mandibular molars has the benefit of excluding the future possible problems concerning mostly infections. In case that a dysplasia is present in the area of the covering mucosa is mandatory to extract the irritating tooth and protect the patient from possible problems of cancer disease. So, we are fore the early extraction of third mandibular molars.

Keywords: early extraction of third mandibular molars

17. BISPHOSPHONATE - ASSOCIATED OSTEONECROSIS OF THE JAW

Cristian Vladan, Tiberiu Nita, Octavian Dinca, Alexandru Bucur
Romania

Introduction: Bisphosphonate (BSFs) are an effective drug which have been mainly used in oncology for the treatment of solid tumour with bone metastasis, as well as for haematologic disease such as multiple myeloma, but also prescribed in non neoplastic disease such osteoporosis and Paget's disease.
Materials and methods: We studied retrospectively patients who developed BRONJ followed from January 2007 to January 2011 in our department. All patients have been treated with BSFs for bone lesions and/or factures.
Results: Patients received antibiotic associated with surgical debridement of necrotic bone or sequestrectomy in association with antibiotic therapy.
Conclusions: BRONJ is a late complication of the use of BSFs which interfere on quality of life of patients.

Keywords: bisphosphonate, osteonecrosis of the jaws

18. MANAGEMENT OF BONE DEFECTS WITH BIO-OSS

Biljana Evrosimovska, Cena Dimova, Daniela Velevska-Stefkoska, Boris Velickovski
FYROM

Introduction: The defects in the alveolar bone might appear as a result of congenital malformations, traumatic injuries, periodontal disease, surgical traumas, chronic periapical changes and tumors from benign or malignant origin. The aim of this study was to provide solid and healthy area with application of Bio-Oss in the defect.
Materials and methods: Based on the clinical diagnosis

established by previously taken history, clinical examination and radiographic images oral-surgery interventions was made. To realize the aim of this work, augmentative material was implicated in the bone defects made in the patients after removal of follicular cyst, chronic periapical lesion, and parodontopathia. During the first and seventh day of the interventions, the patients have been followed through from aspect of possible development of local and general complications after the oral-surgery intervention. After period of one, three and six mount control x-ray was made.
Results: Obtained results confirmed that**:** volume of the socket and defect of the bone was kept, fast revascularization was achieved, bone formation and slow resorption of the augmentative material was achieved, and period of normal healing without infection was also achieved.
Conclusions: The augmentative materials used for treatment of bone defects besides their basic chemical and physical characteristics referring to their solubility in the body fluids, the transformation, modulation and resorption must be completely safe or secure, i.e. not to bring any risk of infection, immunological risk, physiological intolerance or inhibition of the process of restitutio ad integrum. In our study Bio-Oss was confirmed as augmentative material who had this characteristics.

Keywords: bone defect, resorption of the bone, augmentative material, Bio-Oss

19. FREQUENCY AND REASONS OF EXTRACTION OF PERMANENT TEETH

Ivana Simic, Slavoljub Tomic, Lado Davidovic
Bosnia and Herzegovina

The aim of this clinical study was to analyze the frequency and the reasons for permanent tooth extraction. **Materials and methods:** Data were collected from 860 patients who were patients of the Clinic for Oral Surgery in the five-year research. Each patient's age, gender, number of extracted teeth and the reason for the extraction vere recorded. The reasons for extraction was classified as follows**:** 1) caries and sequelae, 2) periodontal disease, 3) orthodontic reasons, 4) prosthodontic reasons,5) pericoronitis, 6) trauma, and (7) patient's requests for the extraction of teeth.
Results: During this study 1501 teeth were extracted**:** 78,7% were extracted due to dental caries, and 13,7% because of periodontal disease. Pericoronitis, trauma and the patient's request for the extraction of teeth, are present in our population with the prevalence of less than 1%. Dental caries and its complications were the main reasons for tooth extraction in young and middle-aged population, while periodontal disease was the main reason for tooth loss in patients older than 40 years. Maxillar and mandibular 1st and 2nd molars (87,7%), were the most frequently extracted teeth due to dental caries. Maxillar and mandibular anterior teeth were the most frequently extracted due to periodontal disease (59,2%). Orthodontic indication, after the caries, were a leading cause of loss of permanent teeth in the younger population under 15 years. The results showed that the higher incidence of tooth extraction was in women than in men (54%**:** 46%).
Conclusions: Dental caries and periodontal disease were the main reason for extraction of permanent teeth in this study. Number of extraction of premolars and third molars for orthodontic treatment showed steady growth in all 5 years of study.

Keywords: tooth extraction, tooth loss, dental caries,periodontal disease

20. TMD PAIN FOLLOWING ORTHOGNATHIC SURGERY IN CLASS III PATIENTS

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Slobodan Dodic, Dragan Petrovic, Mirjana Janosevic, Goran Mladenovic, Ruzica Kozomara - Serbia

Introduction: Surgical procedures impose risk of chronic pain due to several underlying mechanisms. Orthognathic surgery affects both hard and soft tissues in the maxillofacial region and could possibly contribute to the number of patients with chronic orofacial pain. Temporomandibular disorders (TMD) include signs and symptoms in temporomandibular joint, masticatory muscles and adjacent structures, with pain being the most prominent symptom. We aimed this study to evaluate TMD pain in patients with class III dentofacial deformities after combined orthodontic-surgical treatment with respect to the untreated individuals.
Materials and methods: The study comprised 40 patients with class III dentofacial deformities who underwent combined orthodontic-surgical treatment (orthognathic surgery group). Forty-two patients with untreated class III skeletal malocclusions served as control group. Research diagnostic criteria for temporomandibular disorders was used in order to estimate chronic pain and related disability as well as to assess the clinical diagnosis of TMD.
Results: The presence of chronic TMD pain was observed in 47.5% of the postoperative cases and in 28.6% of the untreated subjects ($p>0.05$). Almost all painful patients in both groups had low grades of chronic pain. Considering specific painful TMD diagnoses, myofascial pain was significantly higher while arthralgia was significantly lower in the orthognathic surgery group compared with the controls (90.5% vs. 50.0%, 0.0% vs. 27.8%, respectively) ($p<0.05$). With respect to gender, females showed increased level of chronic pain ($p<0.05$) and higher prevalence of myofascial pain ($p<0.01$) postoperatively.
Conclusions: TMD chronic pain immediately after completion of orthodontic-surgical treatment for class III dentofacial deformities is common, low in grade, significantly higher in females and most commonly myogenic. Dental professionals should be aware of the risk of experiencing TMD pain related to orthognathic surgery and take measures to prevent and assess symptoms of dysfunction in the subsequent follow-up period.

Keywords: chronic pain, mandibular prognathism, RDC/TMD, temporomandibular disorders

21. THE TREATMENT MANAGEMENT OF PATIENTS WITH FRACTURES

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Republic of Moldova

Introduction: Multitude of possible clinical cases of mandibular fractures as well as the variety of methods of treatment with its advantages and disadvantages makes difficult the choice of the treatment tactics. Consequently, it is necessary to elaborate some algorithms of the treatment tactics in patients with mandibular fractures, which will orient the specialists to an effective treatment consequence in these patients.
Materials and methods: The study comprised 142 patients with mandibular fractures. Fragments fixation has been carried out with titanium miniplates, screws, metalic wire. Patients were divided into two groups depending on the type of access to the focus of the fracture: Study group was composed of 95 patients operated through endo-oral access; Reference group comprised 47 patients operated through exo-oral access. Patients division has been done also according to the device of fragments fixation. Having compared the results of surgical treatment in the same subgroups, we assessed the efficacy of mandibular osteosynthesis depending on the type of access and device of fragments fixation.
Results: Our studies have proved that endo-oral access is superior to exo-oral access for its advantages, but it is limited by some factors: time of referral, localisation and severity of the fracture; titanium miniplates are devices of choice versus the metalic and detachable screws. To make the choice of the surgical treatment tactics easier we have systematized the methods of osteosynthesis according to the device of fragments fixation, stability of fixation, terms of intermaxillary immobilization and patients rehabilitation.
Conclusions: Functionally stable osteosynthesis by means of 2 miniplates is the best method of management of mandibular fractures, allows an early functional rehabilitation of the patients. Comparative analysis of treatment follow – up depending on the fragments fixation device has proved a prority of miniplates over the metalic wire and detachable screws.

22. ENSURING OF HAEMOSTASIS IN PATIENTS WITH POSTEXTRACTIONAL DENTAL HEMORRHAGES

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Republic of Moldova

Introduction: Despite the existence of a great number of methods which secure local hemostasis, application of sutures represents a standard approach and one of the most widely spread procedures used in patients with postextractional dental hemorrhage. However, in the last years use of the sutures with hemostatic purposes continues to be the subject of multiple scientific debates. This fact is on the one hand due to the difficulties which sometimes occur in performing the local hemostasis, on the other hand the operative traumatism which inevitably occurs when apllying the method. Thus, it is necessary to perform a subsequent study concerning the efficacy of sutures application to ensure local hemostasis in patients with postextractional dental hemorrhage of diverse etiology.
Materials and methods: The study comprised 42 patients with postextractional dental hemorrhage caused by local factors (35,7±7,4%), arterial hypertension (31,0±7,1%), thrombocytopenia (23,8±6,6%) and oral anticoagulant medication (9,5±4,5%). Male patients (26) constituted 61,9%, women (16) - 38,1%. The mean age constituted 50,7±2,7 years. To ensure the local hemostasis, the „X"-shaped suture with nonresorbable thread have been used. Analysis of the obtained data was carried out using the programs Statistics 6.0 (Statsoft Inc), EXCEL and SPSS 16.0 (SPSS Inc).
Results: Of those 42 patients who were applied sutures, hemorrhagic recurrences have been recorded in 8 (19,0±6,1%, $p<0,05$) patients, 6 (75,0%) of them had thrombocytopenia, while 2 (25,0%) patients had been under oral anticoagulant medication (warfarin, thrombostop).
Conclusions: The routine use of sutures to ensure local hemostasis in patients with postextractional dental hemorrhage occuring on the general thrombocytopenic and antithrombotic basis correlates with a considerable increase of the number of hemorrhagic recurrences. Application of sutures has a positive influence on the treatment results in patients with postextractional dental hemorrhage caused by arterial hypertension and local factors.

Prosthodontics - Biomaterials

1. CONTROL OF ALVEOAR BONE RESORPTION - TREATMENT PLANNING AND EXPECTATIONS

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The healing process of alveolar bone after tooth extraction never results in complete restitution of the original alveolar bone volume due to physiological resorption. Reduction of bone significantly takes place in first three months following extraction, predominantly in horizontal dimension. Adequate volume and quality of residual alveolar bone are necessary to provide favourable aesthetics and functional long-term outcomes for dental implants. Control of alveolar bone resorption can be obtained using different surgical procedures and materials.
The aim of this presentation will be focused on the **Introduction:** with the outcomes of the post-extraction socket preservation with beta-tricalcium phosphate and bovine bone, both associated with collagen type I, and

Bone Ceramic. The data were evaluated clinically and with histomorphometric analysis. All treated sites healed uneventfully. Clinical results showed that there was a significant horizontal resorption of the residual alveolar ridge at the area of preserved sockets. No significant reduction of vertical dimension was recorded. The healing events and data collected after bone biopsy showed solid bone deposition for implant placement and active new bone formation with trabecular bone structure. The amount of residual graft was seen in small percentage well incorporated into newly formed bone. On the other hand, socket preserved with Bone Ceramic (a combination of hydroxyapatite and beta-tricalcium phosphate) revealed higher percentage of non-resorbable particle of grafted material, mostly incorporated with bone marrow and fibrous tissue. All treated sites demonstrated sufficient amounts of vital bone and socket morphology to support dental implant placement. All placed implants obtained initial stability at the grafted sites nine month after socket preservation treatment.

Keywords: socket preservation, histomorphometry

2. BOND STRENGTH OF DENTURE TEETH TO HYPOALLERGENIC ACRYLIC RESIN: EFFECT OF THERMOCYCLING AND SURFACE MODIFICATIONS

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Turkey

Introduction: The most common reason for the elderly to seek dental treatment is for the replacement of missing teeth. Although the number of edentulous people has decreased, there are still many patients needing treatment that require complete dentures. Denture base materials which are indispensable part of denture fabrication have the potential to cause irritation and allergic reaction to the oral mucosa. To resolve this problem hypoallergenic denture base materials commonly used for patients with allergic reactions to polymethyl methacrylate (PMMA) denture base materials. Hypoallergenic denture base materials show no residual methyl methacrylate (MMA) or significantly lower residual MMA monomer content compared to polymethyl methacrylate-based (PMMA) heat-polymerizing acrylic resin. There is insufficient knowledge of the bond strengh properties of hypoallergenic denture base materials to acrilic resin teeth to warrant their use in place of PMMA-based acrylic resins for patients with allergic reaction to MMA.
Materials and methods: Bond strengths of acrylic resin teeth to denture base resins were evaluated before and after thermocycling. Thermocycling is an in vitro process used to simulate in vivo events and is often represented in these studies. Three denture base resin materials (Puran HC, Alldent Sinomer, QC20) and three different surface treatments (Sand blasting, Er**:** YAG laser, Sand blast + Er**:** YAG laser) were evaluated. Surface roughness were estimated using profilometer after different surface modifications. Specimens prepared according to previous studies. The specimens were adjusted and fixed for shear testing, with all tests performed on a Universal testing machine. SEM analysis were performed after fracture to determine type of adhesion failure.
Results: Results: was statistically analysed.

Keywords: Acrilic Teeth, Bond Strength

3. PREVALENCE OF ENDODONTIC POSTS IN A GROUP OF A TURKISH SUBPOPULATION

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Turkey

Introduction: Varying post materials are commercially available for endodontically treated teeth, which are commonly used as abutments for different types of prosthetic restorations. The aim of this retrospective study was to analyse the effects of different post types on the periapical health of the endodontically treated teeth, in a group of a Turkish subpopulation in Cyprus.
Materials and methods: A total of 676 teeth in 9442 subjects were examined for the prevalence of different types of post-and-cores and prosthetic restorations along with their periapical condition. The teeth with poor endodontic treatment (root canal filling ending more than 2mm short of the radiographic apex or grossly overfilled) were excluded from the study. Panoramic radiographs of all subjects and additional periapical radiographs of affected teeth were evaluated by two observers for the post-remaining root ratio and periapical status. The periapical status of the teeth was assessed by the Periapical Index (PAI) scores. The results were statistically analyzed with chi-square test and significance level was established at 5%. Also the interexaminer agreement was detected by Cohen's kappa.
Results: The total number of fiber posts, and cast metal posts were 46 (6,80%), 418 (61,83%) and 212 (31,36%) respectively. The prevelance of the prefabricated metal post restorations was significantly higher whereas fiber posts were found to be the least preferred endodontic post type ($p<0.01$). In addition, single crowns were (66.86%) found to be the most commonly used prosthetic superstructure restoration of the post-and-cores. Apical periodontitis was significantly higher in the prefabricated metal posts which were used as an abutment for bridges ($p<0.01$).
Conclusions: The prefabricated metal post was highly prevalent and a correlation between prefabricated metal post and apical periodontitis was found in a group of Turkish subpopulation in Cyprus.

Keywords: post-and-core, retrospective study

4. EFFECTS OF NITRIDE COATINGS ON ROUGHNESS AND STREPTOCOCCUS MUTANS ADHESION

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Sengul Danisman, Secil Abay
Turkey

Introduction: Streptococcus mutans is the most cariogenic bacteria in the mouth and play as an early colonizer on formation of dental plaque. The adhesion of this bacterium to fixed partial denture materials can be responsible for secondary caries and periodontal disease around the restoration. Modification of dental alloy surfaces with surface coating materials may be beneficial for preventing these problems. Titanium nitride (TiN) and Titanium aluminum nitride (TiAlN) coatings are widely used for improving the tribological performance of materials where high abrasion resistance, high hardness and corrosion resistance are required. Moreover, these coatings are biocompatible for medical applications. In this in vitro study, nickel-chromium dental alloy specimens were coated with TiN and TiAlN. Effects on roughness and adhesion of Streptococcus mutans of these coatings were investigated.
Materials and methods: A total of 45 disc-shaped specimens were prepared from nickel-chromium alloy and metallurgically polished in order to obtain mirror finish. Specimens were randomly divided into three groups (n=15). One of the groups served as a control. Other groups were coated with TiN and TiAlN by using PVD magnetron-sputtering technique. Roughnesses of specimens were measured by using profilometer. Amount of Streptococcus mutans (NCTC 10449) adhesion of each group evaluated by colony-forming unit counting method. Experimental results were analyzed with ANOVA.
Results: The roughness of the nickel-chromium alloy did not change after both TiN and TiAlN coating process. Amount of Streptococcus mutans adhesion on TiN coated specimens compared with the control group were decreased, but the difference was not statistically significant ($p>0.05$). However, amount of bacterial adhesion of TiAlN coated specimens were significantly reduced when compared with the control and TiN coated groups ($p<0.05$).
Conclusions: Nitride coatings can be successfully deposited on nickel-chromium alloy. Especially, TiAlN coating may be an alternative for preventing dental plaque accumulation and secondary caries around nickel-chromium alloy.

Keywords: Nitride coatings, S. mutans, Dental Alloy, Roughness

5. ELECTION OF OPTIMUM MATERIAL FOR IMPROVING THE FUNCTIONALITY OF COMBINED DENTURE'S RESISTANCE STRUCTURES

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Romania

Introduction: The combined denture's resistance structure (CD's RS) used for the functional rehabilitation of partial edentulous patients is an ensemble composed from fixed and removable resistance parts. The functionality of the ensemble is provided by**:** the type of fitting between the parts, the shape design of itch component and the optimum material's elected and the processing technique.
Materials**:** For the election tests had been used two types of Co-Cr base alloy with a weight percent composition**:** alloy HPW (Co**:** Cr**:** W= 55,2**:** 24**:** 15) and alloy SC (Co**:** Cr**:** Mo=62**:** 30**:** 5,5). The alloys are in stages**:** 6,2 g ingots.
Materials and methods: The 1st test is made for HPW and SC from electrochemical behaviour point of view, using Voltalab PGZ100.The electrochemical methods are applied**:** polarisation for corrosion (Tafel), Pitting corrosion, and electrochemical impedance spectroscopy (EIS). The 2nd type of test reveals the castability of HPW and SC alloys using the induction-centrifugation casting machine Fornax-Bego. The analyse of casted plates with measurements of the casted wire in extension of the plate.
Results: The electrochemically test show that after linear polarisation the corrosion potential of HPW is delayed with +155mV in front of SC the value of Icorr beeing relevant for pitting corrosion.
Conclusions: The Co-Cr-W system is more thermodynamic stable than Co-Cr-Mo system that have a good castability than the HPW alloy (15%wt W). The CD's RS has been optimized using the quality of processed materials.

Keywords: Co-Cr base alloy, Combined dentures, electrochemical behaviour, castability

6. COMPARATION OF CITOTOXICITY OF DENTAL ALLOYS AFTER RECASTING

Aleksandra Čairović, Katarina Radović, Rade Živković, Ivica Stančić, Aleksandra Milić
Serbia

Dental alloys are very often used materials in prosthetic dentistry. There are many articles of that kind on the dental market. The cost depends on the contents of precious metals in the alloy. Within the procedure of making dental prosthetic restorations the alloys are melted and cast which leads to changes in their physical, mechanical and biological properties. The aim of this study was to compare the effect of recasting on two examined dental alloys, very often used in dental practice. Those alloys were Ni-Cr and Au-Pt. To show the change of biological quallity of those two alloys after recasting, there were manufactured two groups of samples, the first one, made after the first casting and the secound group, made after the fourth recasting, without adding any new amount of alloy. The samples were made as discs (Ø 5mm and 1mm thick). To show the influence of recasting on citotoxicity of the two examined dental alloys there were used two tests**:** 24h citotoxicity test and 3 days citotoxicity test, both tests on L929 fibroblasts. The results of the tests showed the change of biological quallity depending on recasting and also of the contents of nobel metals in the alloy.

Keywords: citotoxicity, dental alloys, L929 fibroblasts

7. STRESS ANALYSE OF DIFFERENT ALLOYS USED FOR CASTING SNAP IN LATCH ATTACHMENT

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Serbia

Unilateral dentures without palatine connector are very suitable for patients with unilateral free-end saddle. Especial kind of extra- coronal snap in latch attachment is used for retention of this denture. The primary component of attachment is made of fully combustible plastic, high fusing for casting The secondary component is made of titanium and is designed for adhering into a chrome cobalt denture base. The aim of this research is comparative stress analyze between Co-Cr- Mo and palatine gold alloy that are used for casting the milling crowns and snap-in latch attachment as a part of unilateral denture without palatine connector. Matherial and method**:** Computer program CATIA is used for modeling the models of unilateral free-end saddle denture without palatine connector with SERVODENTAL precision attachment (abutment teeth canine and first premolar).On the removable part of denture second premolar, fist molar and second molar are placed.Comparative analyze between different casting materials (Co-Cr- Mo and palatine gold) under stress conditions is made by finite element method. The loading is calculated under physiological forces of 25N-100N and excessive forces of 300N-500N.The loadings were applied in the region of second premolar, fist molar and second molar. **Results:** The model made of palatine gold alloy showed high stress and breakage under the loading of 100N in the region of second premolar. Co-Cr –Mo alloy showed higher strength. The breakage of attachment could be expected on the root of attachment under loading of 300N. **Conclusions:** Palatine gold alloy can not be used for casting snap in latch attachment for unilateral denture without major connector.

Keywords: Stress analyse, Co-Cr- Mo, palatine gold alloy

8. NEW RESEARCHES REGARDING THE IMPROVEMENT OF THE BIOMATERIALS INVOLVES IN ORAL LOSS OF SUBSTANCE REHABILITATION)

Magda Antohe, Maria Cazacu, Doriana Forna, Dan Bosinceanu, Norina Forna
Romania

Introduction: The terrible clinical reality of the total and subtotal edentulous seen from the impact on the patient's general status point of view, with extremely serious perturbations upon the body scheme, in relation with the variety of clinical situations and always influenced by present social aspects, all these are just a few directions that argue for the necessity of the present study which is aimed at improvement both the clinical and technological level, with the differentiation of the interrelation between the two sides of the prosthetics therapy.

Methods: New silicone (synthesized in collaboration with the "Petru Poni" Institute of Macromolecular Chemistry , Iassy, Romania) based materials having a higher biocompatibility as compared with those commercially available (Mollosil), have been prepared and used for improvement of the removable dentures' structure, but also for their lining. For the three-dimensional reconstruction of different types of intra and extra-oral maxillofacial substance losses we used the universal programme Amira for 3D reconstructions for any type of Computer Tomograph. We made a 3D simulation in real time of the flexible mandibular prosthesis to notice the dispersion of the forces exercised on the entire surface of the toothless prosthetic field from the patient's oral cavity under the action of the masticatory forces and the quantification of the tensions at the mucous-bony level.

Results: The resulted polymer was fully characterized by combined techniques and used to prepare composites by mixing with an inorganic filler (silica) and certain pigments. The dispersion of forces at the level of the mucous-bony support is fully linked to the masticatory force generated by the natural dentition, by diverse types of fixed restorations as well as by the mobile prostheses inducing low tensions at the level of the anatogonistic arch, the presence of the silicon material proposed by us as lining material for these types of prostheses after the finishing of the adhesion mechanism between the two biomaterials being in full compliance with the biomechanical principle of reducing pressures at the mucous-bony level. A high frequency of the analyzed cases is represented by substance losses at the mandibular level, the analysis by finite element revealing tension concentrators at the level of the edges of substance defect

Discussion and Conclusions: The oral rehabilitation of substance losses supposes a complex algorithm fully complying with the particularity of the clinical case.

The finality of the clinical case is in conformity with the biomaterials used, mainly silicon materials, without eluding the role of the filling biomaterials.

The stages of mathematical modeling personalized for each clinical case are very important in choosing the final therapeutic solution.

Implantology

1. PALATAL POSITIONING OF IMPLANTS IN SEVERELY RESORBED POSTERIOR MAXILLAE

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Israel

Objectives: To evaluate an alternative treatment for rehabilitation of the severely resorbed posterior maxilla with palatal positioning of implants using the pre-existing anatomic features.

Materials and methods: A retrospective study was conducted of thirty eight patients who received palatally positioned implants in the posterior maxilla using

optimally the palatal curvature to avoid sinus grafting between Sep. 2005 and Sep. 2009. Patients with class IV and V atrophied maxillae according to the Cawood and Howell classification were included in this study. All patients received implant-retained fixed metal ceramic crowns. Panoramic radiographs and computerized tomographs of the maxillae had been made prior to surgery. Patients were followed-up for forty eight months after prosthesis delivery. Mesial and distal bone loss around the implants was measured on periapical radiographs and the largest value was considered as the bone loss. Periotest values (PV)of inserted implants were analyzed.

Results: Thirty eight resorbed posterior maxillae were treated with fixed prosthesis supported by a combination of 196 upright and palatally positioned implants. All implants were placed as planned, 56 implants were placed in the palatal curvature through optimal use of the anatomic features of the posterior arch,140 implants were placed in upright position using the residual pristine bone. The success rate of palatally positioned implants during the four-years observation period was 96% (54/56). Clinical evaluation of the results showed stable implants according to PV. The mean bone loss of implants with palatal tilting at the 12 months evaluation of loading was 0.88+_0.59, No complications were recorded and there was no infection or inflammation.

Conclusions: Palatal positioning of implants in situation where there is sufficient palatal bone medial to the maxillary sinus, may be a predictable alternative to avoid sinus grafting for rehabilitation of the atrophied posterior maxilla.

Keywords: dental implants, palatal position, posterior maxilla, sinus elevation

2. METHOD OF CHOICE IN CEMENTED IMPLANT-SUPPORTED BRIDGE FAILURE

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Bulgaria

Introduction: The purpose of the current case report is to present a clinical case where the concept of the prosthetic treatment and the type of the prosthetic restoration are changed from a fixed implant supported construction to an implant supported overdenture due to a failed metaloceramic bridge and prosthetic abutments.

Case report: A 61 year old patient came to us with a request for a repair of a failed fixed metaloceramic bridge placed on implants in the area of 14, 24, 11 and 21.During the initial exam it was stated that the old construction cannot be repaired due to a fracture in the area of the central incisors which caused a fracture in two of the prosthetic implant abutments in the area of 11 and 12 resulting in parts of the screws being left in the implants. The parts of the fractured screws,which were in the implant bodies were carefully removed using an ultrasonic scaler (Satelec, 10P) and counter-clockwise pressure, thereby leaving the thread intact. The restoration was made with combined prosthetic construction distributing the masticatory pressure with the help of joints, locks and bars. The overdenture was made without a palatal part.

Conclusions: Using an ultrasonic scaler for the removal of the screw fragments, ensures that the inner thread and walls of the implant are not compromised, or perforated, which avoids complications and saves time and financial resources both for the patient and the clinician. With the change in the treatment plan and the prosthetic construction, optimal results were achieved in the aspects of aesthetics, function and prophylaxis, which satisfied all of the patients expectation and requirements. Although their advantages and the preferences of patients undergoing an implant treatment, for fixed prosthetic constructions in many clinical cases, a better option for treatment is an implant supported overdenture.

Keywords: implants, fracture, prosthetic abutments, overdenture

3. CBCT EVALUATION OF SUBMANDIBULAR FOSSA IN A GROUP OF TURKISH DENTAL IMPLANT PATIENTS

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Turkey

Introduction: Although osseointegration of surgically placed dental implants is a predictable procedure, anatomic limitations and restorative demands require precision in planning and surgical positioning of implants. The purpose of this study is to evaluate submandibular fossa volume from CBCT scans of patients in a group of Turkish dental implant patients

Materials and methods: 176 sides of 88 pre-implant CBCT examinations (Newtom 3G CBCT machine, Quantitaive Radiology s.r.l., Verona, Italy).were used in this study. Reformatted cross-sectional images tangential to the mandibular dental arch through the mental foramen border were used in the study. Several measurements were done to figure out the deepest area of submandibular fossa, concavity depth. To measure the concavity depth, a tangent line was first derived to the lingual surface of the fossa and the deepest point was then selected by moving a perpendicular line across the tangent line. Kruskall-Wallis H and Pearson Chi square test was used for age, sex gender and location difference ($p<0,05$).

Results: A classification was made according to previous studies for as; the lingual concavity (depth 2 mm) was observed in most of the jaws. Around, 30% of the cases, there were flat depressions less than 2 mm in depth (Type I) and the other concavities were 2 to 3 mm deep (Type II). 3 mm concavities were less than the other types (Type III). Comparing the left and right parameters, no differences could be found. However, the submandibular fossa is depth was found to be statistically in female patients ($p<0,05$).

Conclusions: Mandibles with any lingual concavity pose a potential increased risk of lingual cortical perforation during surgery, particularly endosseous implant placement. It can be concluded that CBCT can be a powerful radiography technique for detecting concavities with less ionizing radiation to prevent any complication

during surgery.

Keywords: CBCT, Implant, submandibular fossa

4. MANAGEMENT OF BONE DEFECTS IN PROSTHETIC RECONSTRUCTIONS ON IMPLANTS

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Romania

Introduction: Modern oral and maxillo-facial surgery compels us to restore function, esthetics and health of the oral system regardless of bone loss, by high-level surgical techniques, patients becoming more demanding on their functional prosthetic needs.
Materials and methods: In the last few years we had to rehabilitate by implant-prosthetic treatment patients with important bone deficit from different etiologies**:** systemic disease, trauma, surgical treatment for tumors both benign and malignant. This involved a series of bone reconstruction procedures, followed by insertion of implants and prosthetic treatment. Due to lack of oral bone we had to resort to extra-oral specific sites for bone augmentation**:** iliac crest, tybia.
Results: and discussion**:** Severe boner atrophy can be only solved with transplants of bone, usually autologous. Depending on clinical situation, the defect size, the etiology, we had to appeal to several types of bone grafts (nonvascularized or free vascularized bone graft) fixed with osteosynthesis screw or plates, followed later by implant insertion and after six month by specific prosthetic reconstruction.
All our patient regain functionality through different types of implant supported prosthesis being fix restaurations or overdentures.

Keywords: bone atrophy, bone graft, implant

5. IMPLANT-BONE BORDER MANAGEMENT WITH COORDINATIVE COMPOUNDS OF ZINC AND VANADIUM

Victoria Granciuc, Gheorghe Granciuc
Republic of Moldavia

Theoretical concept about description of the implant integration into the bone on a microscopic view remains to be a wide studied subject. The study of the morphological samples with sections on the border implant-bone had been done on different depths and sides of the implant using hematoxylin-eosin stain. Remarcable result had been observed on comparative analysis of studied groups on administrating TS-2Z and TS-1Z,TS-9V that did stimulate bone regeneration. Histological studies confirm the results of improvement of biochemical and blood indexes after implant surgery at the animal that had received coordinative compounds of Zn (L-H)2; Zn (L-H) etazol; [Vo (L- H) etazol]2SO4.

Keywords: Implant,microscopic view,compounds of Zn (L-H)2; Zn (L-H) etazol; [Vo (L- H) etazol]2SO4

6. EFFECT OF IMPRESSION TECHNIQUES TO PATIENTS SATISFACTION FOR IMPLANT-RETAINED OVERDENTURES

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Turkey

Introduction: Overdentures are different from conventional dentures in that the support can be derived from both the mucosa and retained roots or implants. The overdenture impression must record the soft tissue–supporting areas simultaneously with accurate positioning of implant components. The aim of this study was to compare the clinical results of two different impression techniques for implant supported overdentures.
Materials and methods: Six women patients who had got edentulous mandibula participated in the pilot study. Patients were treated with two implants supported overdenture prosthesis'. Impressions were made with closed tray impression technique and polyether impression material was used. Six months after the delivery, 14 questions were asked to patients about her denture. Functional impression technique was used for making new overdenture prosthesis'. After border molding, made the impressions of the alveolar mucosa with ZOE impression paste with custom acrylic resin impression trays that leaving an opening in the areas of the implants. The definitive impression of the mandibulas were completed by inserting a stock tray over the acrylic resin tray using heavy and light bodied impression materials. Six months later, same questions were asked to patient about her second denture.
Results: The results indicate the number of patients who had a problem and the mean score related to such items. Mean statistically difference was found item of Soreness of the gums under the lower denture. Any significant differences wasn't found for other items when compared to first and second dentures questionaires of the participants.
Conclusions: The main advantage of the functional impression technique may provide accurate relation between the implants and the denture bearing areas. After delivery of the prosthesis that making of using the functional impression technique to the patient, complaints about sores was decreased at follow-up visits. Although overall findings are encouraging, a larger prospective study is necessary.

Keywords: impression techniques, implant-retained overdentures

7. IMMEDIATE LOADING OF DENTAL IMPLANTS (CASE REPORT)

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Greece

Introduction: The aim of immediate loading is to provide the patient with teeth on the day of the surgery. The term 'immediate loading' should be applied when the implant is subject to occlusal loads straight after insertion. A single tooth or short bridge can be fabricated for placement on an implant or series of implants using conventional restorative techniques. There are concerns that a higher failure rate might result; however, shorter- term results in selected cases suggest that this might not be a problem. This method should be considered in specific cases, such as the anterior mandible, which normally has a good bone quality and quantity.
Case report: A 50years old patient with periodontitis at the maxillary front teeth is the case report described. Following the extraction of the teeth, careful debridement of the extraction socket was carried out to remove any remnants of tissue. A gentle surgical technique and placement of the implant followed.
Conclusions: There are advantages in a one-stage technique in which the implants were loaded from the time of insertion. A second stage surgery is avoided, with a consequent reduction in morbidity and cost. It is also a great opportunity to maintain as much as possible the soft and hard tissues. Moreover, a more permanent restoration could be placed sooner. However, it is important to avoid any functional loading of the temporary crown in all mandibular movements. Primary stability (where the implant fits tightly into its osteotomy site) is also considered. Patients should be informed of the possibility of a higher than normal failure rate.

Keywords: dental implant, immediate placement, immediate loading

8. LASER SUPPORTED IMMEDIATE IMPLANT PLACEMENT

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Introduction: The Implantology enters more intensively in the dental practices at the recent Dental Medicine. The problem with the immediate implantation in infected alveolus is discussed very often. Some authors prefer to wait and to put the implant few months after the healing of the wound. In that way, according to them, the result is more predictable. According to other researches, there is possible to put the implant immediately, but not in infected alveolus. Third sources show serious success at implantation in infected alveolus. There are made number of animal studies, which investigate the sterilization of infected alveolus with laser.
Aim**:** The aim of the current study is to make clinical research for the laser supported immediate implantation in infected alveolus.
Materials and methods: 75 implants were placed in infected extraction sockets on 60 patients between 25-78 years old. The patients were divided in two groups. The extraction sockets of the patients from the first group were treated with Er-Cr-YSGG laser after the extraction, and those from the second group- weren't. In all cases, after the extraction of the tooth, there was placed an implant (TSV-Zimmer Dental-USA) and was grafted with allograft bone substitute (Puros-Tutogen,Germany). The wound was covered with collagen product and was protected with cross stitch. All the patients were observed on the 1, 3, 7, 10 day of the implantation.
Results: In all the cases there was integration of the implant, without any loss of implant. In all cases also there was bone formation at the level of the implant's collar, as at the cases with laser treatment, the level of the bone grafting around the implant was higher, than in the cases which weren't treated with laser.
Conclusions: The treatment of infected alveolus with laser in immediate implantation cases, gives better clinical results, than untreated similar alveolus, in the same conditions.

9. COMPARE OF REAL TISSUE WITH BIOCOMPATIBLE MATERIALS

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Romania

Research of biocompatible materials is an evolving process, driven by increasing number of accidents and solution to improve quality and average lifetime of prosthetic devices. Prosthetic devices is a replica that replaces a poorly functioning body part, either through an artificial device that would provide the same function. In general, biocompatible materials are substances other than food and medicines, which come into contact with tissue or other body fluids present. Placing material in the body determines interaction implant - tissue that can generate genuine conflicts. They can be toxic, mechanical, biological and electrochemical. It can be reached even in serious injuries such as bone and metal assembly used. Deposition of hydroxylapatite nanostructured on metals, will allow better osteointegration in addition to optimizing the wear resistance and dissolution rate. Hydroxylapatite (HA) is a bioactive ceramic with a crystalline structure similar to natural bone and tooth minerals. Material of great interest in dental research for implantable biological response because it results in a positive and adheres well to surrounding tissues. However applications are limited at present HA to powders, deposition, porous bodies and implants are not subjected to heavy loads, and because of difficulties obtaining the weak mechanical characteristics of conventional HA. Nanostructuring process applied to HA base materials is used to obtain the desired mechanical properties and improve responsiveness multifunctional implants used to replace the different hard tissues. Nanostructured HA can be obtained at low sintering temperature, which leads to a chemical homogeneity and a uniform structure throughout the mass of material, with a significant reduction of internal cracks. In the paper we present a comparative study conducted between HA present in the test tooth and apatite produced by chemical

methods. For the study we used a Philips CM120ST microscope techniques for material characterization, using TEM, SAED, PED, HRTEM. The study was complemented by EDX spectra. To investigate dental tissue, collected samples were included in Epon812 after dehydration and sectioned with Leica ultramicrotomului UltracutR using a diamond knife. For apatite nanopowders dispersion was done in absolute alcohol which was filed on grids coated with formvar support after an ultrasonication for 30-60 minutes. Morphology observed in TEM images show the osteocytes location in dental tissue surrounded by hard tissue consisting of hydroxyl or fluorapatite. Compared apatite obtained chemically in the form of nanoparticles are evenly distributed around 15 nm. Both phase was identified by means of electron diffraction. The structure of HA are relatively close to that of fluorapatite, so the EDX study was needed to complete identify the phases of the studied samples.Also, high resolution images obtained exhibit interference fringes that are hydroxilapatite specific.

10. MINIMALLY-INVASIVE SURGERY IN TWO-PIECE DENTAL IMPLANTS PLACEMENT

Andrei Mostovei, Valentin Topalo
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Introduction: The aim of the study is to establish the efficiency of two-stage dental implant placement in one step and without flap rising.
Materials and methods: Twenty-four partially edentulous patients of which there were 15 men and 9 women had 65 two-stage dental implants inserted into lower jaw. Thirty of them were inserted by two-steps flapless method (control) and 35 were installed by one-step and with immediate healing abutment connection (test). Implant sides of each group were subdivided into anterior and posterior ones. Periotest values (in the test group were evaluated in dynamic) and radiographic indices have been analyzed at the beginning and the end of the healing period. Evaluation of crestal bone level in the healing period for both groups was performed. Statistical analysis was made by calculating mean values, standard errors, indices of Student's paired t-test and Mann-Whitney U Test (signification level equal $p<0.05$).
Results: During the healing period, the gum around implants in test group showed no signs of pain, bleeding or inflammation. After an average healing period of approximately 3 months, crestal bone loss for implants in the test and control groups had the following values**:** for anterior sides 0.631mm ±0.116 and 0.756mm ±0.186, for posterior sides 0.642mm ±0.108 and 0.690mm ±0.214 ($p>0.05$). Values of Mann-Whitney U test were**:** U calculated = 571.5 for anterior sides and 474.5 for posterior sides ($p>0.05$). Differences between crestal bone levels of test and control groups don't have significant values. Mean Periotest values were -5.27 ±0.33 (test) and -5.36 ±0.36 ($p>0.05$, control). Due to the placement particularities the evaluation of implants stability dynamics and establishment of individual terms of loading was possible in the test group.
Conclusions: The healing period showed no negative influence of the one-step flapless surgical technique used upon the crestal bone level and peri-implant soft tissues. Avoiding the second surgical step and making use of the minimally-invasive procedure influence significantly the rehabilitation time for patients.

Keywords: minimally-invasive surgery, crestal bone, implants

11. INDICATIONS REGARDING THE INSERTION OF THE IMMEDIATELY POSTEXTRACTIONAL IMPLANT

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Romania

Introduction: While the chronical marginal deep pariodontal disease is more and more frequent among the population and in increasingly younger group ages, we have considered absolutely necessary the solutioning of this problem through a treatment method which would oppose to the classical therapeutical methods, offering a series of advantages which will be pointed out throughout this paper.
Material and method: In order to institute the treatment of insertion of an immediate postextractional implant, we have done the following**:** We have gathered data concerning the general health state of the patient; we have done a complete and complex clinical oral examination in order to establish the local causes of the chronical marginal periodontal disease, the degree of the affliction of the superficial periodontal tissue and of the sustaining periodontal tissues; all of these were followed by the paraclinical examination (orthopantomography, computer-tomography) through which we have managed to assess all the parameters of the bone offer necessary for an immediately postxtractional implant insertion.
Results: The screw type implants and with TPS surface have been inserted immediately after the extraction 4 to 5 months after the augmentation when the bone offer was insufficient for the obtainance of a primary stability of the implants. The period of the prospective study and the retrospective one lasted 5 years and the survival rate of the implants was 98,2 %. We have noticed minimal differences between the different bone grafts and the smoking habits. **Conclusions:** By applying the treatment of immediate insertion of an implant after an extraction, we have succeeded to significantly slow down the bone resorbtion, to shorten the treatment sessions and finally to obtain excellent functional and aesthetical results through the prosthetic works placed on implants.

Keywords: immediate insertion of an implant after the extraction, chronical marginal periodontal disease.

12. SHORT DENTAL IMPLANTS IN THE MAXILLAR SINUS FLOOR TRANSCRESTAL ELEVATION

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Introduction: Purpose of the study was to assess the possibility of use of short implants (SI) in prosthetic recovery through the maxillar sinus (MS) floor transcrestal elevation without augmentation and osteotome sinus floor elevation without mucoperiosteal flaps (modified OSFE).
Materials and methods: 48 patients were installed 67 SI through modified OSFE (the sudy group). 23 patients have been applied only SI (34). To support the single prosthesis, 33 SI along with 42 longer implants were concomitantly installed in 25 cases (the reference group). Osteointegration assessment was carried out through analysis of the clinical picture, OPG and secondary stability of the implants. Statistical study included calculation of the mean values, deviation and standard error, indices of Student's paired *t*-test.
Results: Of 67 SI installed through modified OSFE, one implant failed during the recovery period. The success rate was 98,51%. Height of the residual subantral bone located medially to implants constituted 4,2±1,5mm and 4,5±1,3mm – located distally. Length of the implant segment which penetrated MS was 3,8±1,4mm in the medial side, and -4,2±1,6mm in the distal side. The height of the newly formed bone varied between 1,6 and 4,1mm (3,1±1.2). The mean of the periotest values in the reference group constituted -3,84±0,24, while in the study group it was -3,67±0,24, the statistical difference being insignificant (p>0,05). One year after the insertion, the bone resorption in the alveolar process in SI was 0,15±0,08mm in the anterior side, and -0,20±0,10 in the posterior side, it did not differ (p>0,05) from that around the longer implants.
Conclusions: Short implants as well as the long ones installed through flapless OSFE and without grafting undergo osteointegration, thus contributing successfully to prosthetic recovery of patients with severe atrophies in the posterior sectors of the maxilla.

Keywords: short implants, maxillar sinus, alveolar process

13. TREATMENT PLANNING WITH DENTAL IMPLANTS – A REALITY OF CONTEMPORARY DENTISTRY

Todorovic L.

Since conventional treatment protocols had been introduced into implant dentistry, advances regarding implant surfaces and treatment techniques resulted in substantial modifications of these guidelines in clinical practice. In particular, immediate loading of dental implants, allowing for fast rehabilitation of the patient and shortening of the treatment time, presents an attractive option.
In contemporary literature several classifications of loading protocols have been used, which resulted in some confusion, both in clinicians and researchers. In this presentation, different definitions of immediate, early, conventional and delayed loading will be discussed, as well as significance of immediate loading vs. immediate restoration protocols.
The most important factor that allows for shortened healing time of dental implant is the surface of implant itself. Besides from microroughened implant surfaces, recent **Introduction:** of so called active, chemically modified surfaces, is a factor which might allow for reduced treatment time. Also, other factors influencing decision regarding loading protocols will be discussed, including location of the implant (upper vs. the lower jaw, and aesthetic vs. posterior sites), periodontal status, occlusion, and presence of parafunctions. In particular, factors regarding implant site, such are placement of implant into fresh extraction sockets and into the grafted bone will be discussed. At last, level of primary implant stability presents a paramount factor when loading protocol should be selected. A possibility of non-invasive and reliable measurement of implant stability by means of RFA (resonance frequency analysis) presents a useful diagnostic toll aiding in decision on time of implant restoration.
Finally, this presentation will include review of current scientific evidence and consensus statements regarding loading protocols in implant dentistry.

Keywords: dental implant, implant loading

14. IMMEDIATE LOADING IMPLANTS – DOES IT AFFECT PRIMARY STABILITY

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Serbia

Introduction: The primary implant stability is the most important factor which conditions high survival rate of immediate loaded protocol. It has been concluded from many studies that implants with value of primary stability ≥ 60 ISQ can be immediately loaded. Adequate value of primary implant stability can be avoided by sufficient primary bone to implant contact. Implants with self-tapping design, provide high primary stability in the good quality alveolar bone. The concept of immediate loading provides all advantage of one-stage surgical approach.
Aim: The aim of present study was to analyses influence of implant design to value of primary implant stability.
Hypothesis: The Straumann TE implant, with its conical shape and tapered part in the upper root area and more numbers of the threads on its body will provide adequate value of primary implant stability as well as successful results in procedure of immediate loading of implants placed in posterior mandible.
Materials and methods: Study was performed on 27 patients with partial edentulous mandible. Three implants for both sides were placed in the positions of second premolar, first and second molar. Total 162 implants 8mm (124) and 10 mm (38)length were analyzed. Each implant was tested for primary stability with resonance frequency analysis (RFA – Osstel Mentor).
Results: Mean of primary implant stability for all analyzed implants was 79.08 ± 7,26 ISQ (range 60 to 86). In the group of 8mm length implants mean value was 78.92 ±

6,06 ISQ (range 60 to 85) and for 10mm implants was 79,57 ± 5,17 ISQ (range 60 to 86). It hasn't be noted significant statistically differences between results of ISQ value for implants 8 and 10mm long (P> 0.05).
Conclusions: Based on these results Straumann® TE™ implants inserted in posterior mandible provide sufficient value of primary implant stability for immediate loading protocol.

Keywords: immediate loading

15. POSSIBILITIES FOR IMMEDIATE LOADING OF NON-STANDARD LENGTH IMPLANTS

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Insufficient bone volume and reduced alveolar bone height in the posterior mandible may compromise or even be contraindication for implant placement. The contraindication for implant placement in the posterior mandible is related to the position of the mandibular canal (blood vessels and inferior alveolar nerve) as well as nutrition canal with the branches of the sublingual artery localized at the cortical lingual plate. In such cases, there are two treatment possibilities: vertical ridge augmentation with installation of standard length implants (8mm or longer), or selection and placement of short implants (8mm or less). Although a linear relationship between length and success rate has not been proven, it was considered that shorter implants have statistically lower success rates. Clinical studies confirmed that one of the most important factors which influenced the implant success rate is related to the initial stability. However, the initial stability of implants, especially implants with non-standard length (8 mm), have to be conducted by proper placement inside the insufficient alveolar bone volume and placed in the optimal bone quality attributed to the posterior mandible. Finite element analysis (FEA) has shown that the occlusal forces are distributed primarily to the crestal bone (5 mm), rather than evenly throughout the entire surface area of the implant interface. Recent studies also showed that success rates of implants are more sensitive to the diameter change than to the length.
Design and rough surface of short implants, bone quality and cortical bone engagement appeared to have the greatest impact on long-term success of short implants.

Keywords: implant length, alveolar bone volume, finite element analysis

16. SOFT TISSUE MANAGEMENT IN IMPLANT DENTISTRY

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Serbia

An implant restoration could be considered successful only when both function and esthetics are achieved, regarding contemporary implant dentistry requirements. Esthetically satisfying result assumes that both pink and white esthetic criteria are fulfilled. Soft tissue management around implant-supported restorations continues to present one of the greatest challenges in esthetic implant dentistry. Adequate esthetic soft tissue appearance at the implant-restoration interference requires a healthy peri-implant soft tissue at the appropriate location. The main prerequisite for predictable and successful peri-implant health and position is an adequate soft-tissue seal around dental implant. Additionally, parameters such as biological, surgical and prosthodontic, together with patient selection, have to be taken into consideration to achieve predictability and prevention of soft tissue loss around dental implants. Biological aspects that influence final soft tissue position and contour to be considered during implant treatment are: the keratinized tissue width, gingival biotype and biologic width. Regarding the hard tissue, it is essential to assess surrounding bone quantity, as well as the need of bone grafting procedures. Surgical aspects of soft tissue management include adequate implant selection, 3D implant positioning, as well as surgical techniques such as incision and flap design, suturing techniques and implant uncovering procedures. Prosthodontic aspects to be considered are appropriate material selection, provisionalisation to direct tissue healing, as well as the final restoration design.
Nevertheless, additional periodontal plastic procedures still have to be performed in a number of cases. While planning the surgical management of the soft tissue surrounding dental implants, the following issues have to be considered: methods and techniques of soft tissue management using less invasive surgical techniques, timing for soft tissue management (before, during or after implant placement).

Keywords: soft tissue, implants, periodontal plastic surgery

Fixed Prosthodontics

1. CAD/CAM TECHNOLOGY, A VIABLE SOLUTION FOR PARTIALLY EDENTULOUS CLASS 3 PATIENTS

Silvana Canjau, Carmen Todea
Romania

Introduction: Aesthetics is beginning to define more and more the needs of our patients. Due to its explosive evolution, CAD/CAM technology draws the attention upon itself, exacerbated especially during the recent years.
Case report: This case report presents the technological aspects as well as the clinical ones concerning bilateral fixed partial all-ceramics prosthesis in the posterior area of the mandible and maxilla.
The technology used in creating the fixed partial ceramics prosthesis was CAD/CAM with a system belonging to Wieland Company and Smart Optics. On the cast obtained after molding the impression the technician created the

wax-ups. These were inserted in the scanning device allowing us to obtaining quality virtual patterns. The infrastructure will be generated on these virtual casts. The software permits adjustments of the infrastructure based on the particularity of the case. The obtained information is transmitted to the CAM component of the system where it is being processed in order to be then transmitted to the milling unit. The infrastructure is milled out of a zirconium disc and IN VISION dedicated ceramics masses are layered according to the indications of the producers.
Esthetics but also the physical properties of the used materials permit obtaining results in accordance with the needs and wishes of the patients. All values from the undertaken studies on fixed partial all ceramic dentures with zirconia infrastructure were much more lower than the fixed partial denture metalo-ceramics (2500 – 3000 N) but higher than 1000 N which is considered the minimum resistance for a material in the posterior region.
Conclusions: Even if posterior fixed partial all-ceramics prosthesis have few indications, the newest technologies and materials allow this kind of treatments for situations similar to the one presented in this case report. From the test carried out by researchers, the fixed partial denture from Y-TZP presents good resistance in the posterior occlusion, and seems to be a viable solution in these cases.

Keywords: CAD/CAM technology, dioxide zirconium, posterior FPD, aesthetics

2. CONSIDERATIONS ON THE EFFECTS OF TWO IMPLANT MANDIBULAR OVERDENTURE ON THE OPPOSITE MAXILLARY COMPLETE DENTURE

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Romania

Objective: The purpose of this study was to evaluate the clinical consequences of using two implants for mandibular denture retention, on occlusion and opposite maxillary complete denture, as well as on oral structures in the morpho-functional aspect.
Materials and methods: The study group (n = 28) consisted of complete edentulous patients treated with mandibular two implant overdenture and complete conventional maxillary denture, with an age between 52-83 years, 20 women and 8 men followed for a period of 6 month. The assessment was made subjectively using questionnaires, and also objective by clinical examination of occlusal relationships and denture retention and stability. Subjectively, it was assessed the patients perception on masticatory function, comfort with maxillary denture and their opinion on the upper denture adaptation. Objective, clinical check-ups were conducted regularly, on the denture balance and occlusal relationships. Also, all the complications regarded the maxillary denture was recorded.
Results: Subjectively, after a period of 6 month, most patients perceived a decrease of maxillary denture stability. Clinical observations suggests that the combination of the two types of prosthesis can lead, in some conditions, to an impaired maxillary denture balance, with anterior displacement of the masticatory field, resulting in increased load on the anterior maxillary ridge, affecting the relationship between the prosthesis and the support structures.
Conclusions: With regard to the possible occlusal changes and their implications in maxillary denture balance, to diminish any traumatic effects on the maxillary ridge, the treatment planning should consider periodically control sessions consisting in occlusion rehabilitation interventions for preventing concentration of the masticatory pressure in the anterior maxillary ridge.

Keywords: complete edentulism, implant overdenture, maxillary complete denture outcome

3. ONE YEAR CLINICAL EVALUATION OF PORCELAIN LAMINATE VENEERS: CLINICAL REPORTS

Ayse Kocabasoglu, Zeynep Ure, Bora Ozturk
Turkey

Introduction: The use of porcelain laminate veneers have become popular as a less invasive and conservative treatment modality for non-esthetic defects caused by erosion, discolorations, anomaly of anterior teeth. The aim of this report is to present one-year follow-ups of four patients applied porcelain laminate veneer to improve esthetics. **Case report:** In case report, the method of conservative treatment is presented to restore esthetics and functional requirement of four patients with anomaly, enamel and dentin fracture of anterior teeth. After a detailed dental and medical history was obtained, porcelain laminate veneers were planned. A 0.5-mm facial reduction was prepared. In addition, the finish line at the proximal and cervical aspects of the tooth preparation were extended, and a rounded finish line throughout was prepared. Then pressed ceramic veneers (IPS Empress 2; Ivoclar Vivadent, Liechtenstein) were fabricated. Definitive restorations were evaluated, adjusted for, marginal adaptation, optimal contacts, contours, and esthetics, and luted with a composite luting agent (Panavia F 2.0, Kuraray Medical Inc., Japan). After one year later, patients were recalled and modified Ryge criteria were used to evaluate the porcelain laminate veneers marginal adaptation, interfacial staining, secondary caries, postoperative sensitivity and the patients' satisfaction with the shade of the restorations. **Conclusions:** After one year later, porcelain laminate veneers were successful in terms of marginal adaptation, interfacial staining, secondary caries, postoperative sensitivity and the patients' satisfaction with the shade of the restorations. Porcelain laminate veneers offer a reliable and effective procedure for the conservative and esthetic treatment of anterior teeth.

Keywords: porcelain laminate veneer, clinical evaluation

4. FUNCTIONAL DISORDERS OF MASTICATOR

SYSTEM, ETIOLOGY AND DIFFERENT TREATMENTS

Alketa Qafmolla, Xhina Mulo, Edit Xhajanka
Albania

There are various functional disorders in masticator system Pathological conditions like**:**
Abrasion, bruxism, extraction of teeth, malocclusions etc, indicate a close relation between pain (discomfort) and functional disorders in oral cavity. The etiology of functional disorders is complicated because of its multifactorial nature. The sample size was made of 69 patients in different ages, divided into 2 groups. In the first group there were patient's bruxism and muscular pains, while at the second group there were patient with different malocclusions. Each patient was examined clinically and radiological, while for 15 of them were carried but even magnetic resonance. Functional disorders of masticator system are different and the factors that influence on this system are in e wide range, causing problems with various mechanism. Bruxism is treated by occlusal splint, while malocclusion by means of orthodontic appliances. Besides of orthopedic – orthodontic therapy, we applied even miorelaxant and analgesic therapy. In conclusion is achieved that functional disorders of masticator system can be eliminated based on certain treatment, knowing the etiological factors.

Keywords: masticator system, abrasion, bruxism, malocclusion, orthopedic therapy

5. ERGONOMIC STUDY OF CAD-CAM APPLICATIONS IN MODERN PROSTHODONTICS

Sorin Penta, Virgil Penta, Vera Argeseanu, Mirela Anghel, Cristina Penta, Cristian Comes
Romania

Introduction: Recent advances in technology have transformed modern prosthetics into a very precise art. With the CAD-CAM systems practitioners can obtain very good quality restorations in a one appointment visit. The CAD-CAM from Sirona is a very ergonomic tool. It enables the reduction of time but also boasts great milling precision. It has been an old endeavor sought of by dentists worldwide to be able to offer great restorations in as few as one session, without compromising marginal adaptation, and also offering superb quality esthetics.
Study**:** This study compares the classical full ceramic crown production by Empress injection with the CAD-CAM milling system by Sirona regarding marginal adaptation, esthetics and of course intertwined with the principles of modern ergonomics in the dental practice. Our clinical case requires four maxillary anterior full ceramic crowns in order to recreate the original lost smile. Each step of the production of these two types of crowns from impression to definitive luting is recorded and compared in order to gather a complete set of data regarding**:** time per stage and ergonomics of handling.
Conclusions: The CAD- CAM system by Sirona offers speed and precision. The Empress system offers sheer beauty. The advantages of CAD-CAM come from a great reduction of time and the possibility of any type of color modification either by milling special ceramic cubes or by further color modification using simple ceramic furnaces and special dies. At the mean time Empress System offers different opacity ceramic structures thus enabling life like effects of natural teeth. Informatiile din acesta prezen tare sunt obtinute in urma cercetarilor si documentarii efectuate in proiectul „Ergonomie, preventie management performant in medicina dentara prin aliniere la standarde europene Contract**:** POSDRU/81/3.2/S/55651, proiect cofinantat din Fondul Social European prin Programul Operational Sectorial Dezvoltarea Resurselor Umane 2007-2013 – Investeste in oameni

Keywords: ergonomics CAD-CAM, Empress, full ceramic crown, anterior restauration

6. METHOD OF CHOICE IN CEMENTED IMPLANT-SUPPORTED BRIDGE FAILURE

Viktor Yordanov Hadzhigaev, Stefan CHavdarov Zlatev
Bulgaria

Introduction: The purpose of the current case report is to present a clinical case where the concept of the prosthetic treatment and the type of the prosthetic restoration are changed from a fixed implant supported construction to an implant supported overdenture due to a failed metaloceramic bridge and prosthetic abutments.
Case report: A 61 year old patient came to us with a request for a repair of a failed fixed metaloceramic bridge placed on implants in the area of 14, 24, 11 and 21.During the initial exam it was stated that the old construction cannot be repaired due to a fracture in the area of the central incisors which caused a fracture in two of the prosthetic implant abutments in the area of 11 and 12 resulting in parts of the screws being left in the implants. The parts of the fractured screws,which were in the implant bodies were carefully removed using an ultrasonic scaler (Satelec, 10P) and counter-clockwise pressure, thereby leaving the thread intact. The restoration was made with combined prosthetic construction distributing the masticatory pressure with the help of joints, locks and bars. The overdenture was made without a palatal part.
Conclusions: Using an ultrasonic scaler for the removal of the screw fragments, ensures that the inner thread and walls of the implant are not compromised, or perforated, which avoids complications and saves time and financial resources both for the patient and the clinician. With the change in the treatment plan and the prosthetic construction, optimal results were achieved in the aspects of aesthetics, function and prophylaxis, which satisfied all of the patients expectation and requirements. Although their advantages and the preferences of patients undergoing an implant treatment, for fixed prosthetic constructions in many clinical cases, a better option for treatment is an implant supported overdenture.

Keywords: implants, fracture, prosthetic abutments, overdenture

7. CENTRIC TRAY AND THE STRATOS 200 ARTICULATOR-IMPORTANT COMPONENTS OF BIO-FUNCTIONAL PROSTHETIC SYSTEM

Edit Xhajanka, Alketa Qafmolla, Armand Alushi, Ardita Korabi, Endrit Paparisto
Albania

Since the upper and lower jaw in centric relation constitute a closed three-dimensional unit in the mouth, individual impressions of the jaws can not capture the totality of the relationship. The Bio-functional Prosthetic System of Ivoclar offers the Centric Tray to determine the occlusal position in the same session during taking the anatomical or functional impressions.

Keywords: centric tray, articulator, occlusal position, Stavros 200

8. COMPARISON OF DENTAL IMPLANTS OF ANGLED ABUTMENTS' STRESS ANALYSIS USING FEM (FINITE ELEMENT METHOD)

Funda Bayindir, Ruhi Yesildal, Filiz Karabudak, Nurdan Polat Sagsoz
Turkey

Introduction: Dental implants have increasingly been used to replace missing teeth. When dental implants are not placed parallel to adjacent teeth or contiguous implants the clinician can use angled abutments. Angled abutments are often used to restore dental implants due to their advantages of esthetic profile and angled abutments may be considered a suitable restorative option when implants are not placed in ideal positions. The purpose of current study was to measure and compare stress distribution on the bone around two different implant–angled abutment-crown combinations.
Materials and methods: For first model; Ti-6Al-4V for implant fixture and angled (15°) abutment, yttrium tetragonal zirkonium polycrystal (Y-TZP) for zirconium framework, feldsphatic porcelain for superstructure material; for second model; Y-TZP for implant fixture, angled (15°) abutment and zirconium framework, feldsphatic porcelain for superstructure material were used. Two implants and their superstructures were modeled using CAD software Creo Elements-Pro5.0 and the mandibular was modeled using MIMICS 13.1 software. Two models were embedded to mandibula using MIMICS 13.1 software and solid models of mandibular incisors transferred to mesh model in FEM (ANSYS/Workbench 12.1) to analyze.
Results: In our study, a model of φ 3.8 mm x 10,5 mm, UMG solid screw implant (UMG**:** BioHorizons AG, Birmingham, Alabama/America), angled (15°) solid abutment (UMG**:** BioHorizons AG, Birmingham, Alabama/America) 8.0 mm in height was selected. Under limitations of FEA method, all calculations for the static analysis of the von Misses stress values revealed that maximum stress were performed using the finite element method.
Conclusions: The differences were observed in resolved stresses between implant–angled abutment-crown combinations.

Keywords: MIMICS, Zirconia, Titanium, angled abutment, Finite Element Method (FEM)

9. TMD PAIN FOLLOWING ORTHOGNATHIC SURGERY IN CLASS III PATIENTS

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Introduction: Surgical procedures impose risk of chronic pain due to several underlying mechanisms. Orthognathic surgery affects both hard and soft tissues in the maxillofacial region and could possibly contribute to the number of patients with chronic orofacial pain. Temporomandibular disorders (TMD) include signs and symptoms in temporomandibular joint, masticatory muscles and adjacent structures, with pain being the most prominent symptom. We aimed this study to evaluate TMD pain in patients with class III dentofacial deformities after combined orthodontic-surgical treatment with respect to the untreated individuals.
Materials and methods: The study comprised 40 patients with class III dentofacial deformities who underwent combined orthodontic-surgical treatment (orthognathic surgery group). Forty-two patients with untreated class III skeletal malocclusions served as control group. Research diagnostic criteria for temporomandibular disorders was used in order to estimate chronic pain and related disability as well as to assess the clinical diagnosis of TMD.
Results: The presence of chronic TMD pain was observed in 47.5% of the postoperative cases and in 28.6% of the untreated subjects ($p>0.05$). Almost all painful patients in both groups had low grades of chronic pain. Considering specific painful TMD diagnoses, myofascial pain was significantly higher while arthralgia was significantly lower in the orthognathic surgery group compared with the controls (90.5% vs. 50.0%, 0.0% vs. 27.8%, respectively) ($p<0.05$). With respect to gender, females showed increased level of chronic pain ($p<0.05$) and higher prevalence of myofascial pain ($p<0.01$) postoperatively.
Conclusions: TMD chronic pain immediately after completion of orthodontic-surgical treatment for class III dentofacial deformities is common, low in grade, significantly higher in females and most commonly myogenic. Dental professionals should be aware of the risk of experiencing TMD pain related to orthognathic surgery and take measures to prevent and assess symptoms of dysfunction in the subsequent follow-up period.

Keywords: chronic pain, mandibular prognathism, RDC/TMD, temporomandibular disorders

10. MANAGEMENT OF THE ANTERIOR

ESTHETICS

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USA

Introduction: The periodontal-restorative team is in charge nowadays to provide the esthetic procedures that today's sophisticated patient population has come to expect. Combining the health, function and esthetics is the only way to satisfy the patient needs. The esthetically oriented restorative clinician, during the diagnosis, will encounter 3 primary clinical disorders**:** dental disease/ occlusal disorders/ esthetic disharmonies. Changes in the width of the teeth will affect the amount of interproximal space, the proportion of the adjacent teeth, 3D location within the arch. Changes in the length of the teeth will affect**:** the incisal edge position, the resultant horizontal-vertical overlap between the maxillary and mandibular teeth, location of the gingival margin and the degree of the gingival display. Therefore, precise measurement during treatment is imperative. Changes in any one of the dimensions should be quantified, as the amount of change will determine the nature of the treatment to be rendered.
Materials and methods: Following a certain protocol and respecting all the sequences of the treatment plan, will transform some complicated cases in ones that are very easy to handle over. Using a certain armamentarium consisting of digital calipers, millimeter rulers and periodontal probes will enable us to diagnose and correct tooth size discrepancies.
Results: The clinical examples presented demonstrate the applicability of the protocol in managing the anterior esthetics for both standard and non-standard tooth sizes.
Conclusions: Dental and gingival aesthetics act concomitantly to provide a balanced harmonious smile. A defect in the surrounding tissue can not be compensated by the quality of the dental restoration and vice versa. The complex cases presented that include restorative space management cases type, in which maybe just the orthodontic therapy alone can address it are successfully solved following this protocol.

Keywords: tooth proportion, esthetics, dimension, size

11. INVESTIGATION OF THE EFFECT OF DIFFERENT SURFACE PROCESSES ON THE BONDING STRENGTH OF DENTAL IMPLANT ABUTMENT – RESIN CEMENT

Hasan Güngör, Zeynep Yesil Duymus
Turkey

Introduction: In this study, it was aimed to investigate comparatively the effect of different surface roughening processes which were applied to the titanium alloy (Ti-6A1-4V) samples, the most useful of the materials used in making of dental implant abutment to the bonding strength of resin cement.
Materials and methods: The samples in the form of 10 mm thick and 12 mm diameter cylinder were used. 60 samples were divided into 6 groups and there were 10 samples in each group. It was carried out different surface roughening processes to these 6 groups. After the surface roughening processes were applied, SEM images were taken to analyze topography examination of the samples' surfaces. The samples in each group roughened and not roughened were pasted with Panavia F resin cement after used Alloy Primer through the suggestions of the manufacturer. Samples were subjected to shear test in the universal test machine to measure the bonding strength values. Acquired data was analyzed statistically by using two-way variance ANOVA.
Results: In the study, in addition to the roughening with diamond bur to, the group (15.96 MPa) which was roughed by using Co-Jet method has the highest value of bonding strength whereas the lowest value of bonding strength was given by the group (2.44 MPa) that was not applied any surface process.
Conclusions: Some surface roughening process increasing the bonding strength while some methods have no effect on this strength has been observed.

Keywords: Dental implant abutment, Resin Cement, Surface Processes, Bonding Strength

12. EFFECT OF DIFFERENT CLEANING PROCEDURES INCLUDING ER: YAG LASER ON SHEAR BOND STRENGTH OF CERAMIC DISCS TO HUMAN DENTIN

Mustafa Zortuk, Hasan Onder Gumus
Turkey

Introduction: The purpose of this study was to evaluate the effect of temporary cement removal by different dentin cleaning protocols (dental explorer, pumice, cleaning bur, Er**:** YAG laser) on the shear bond strength (SBS) between ceramic and dentin.
Material Method**:** In total, 36 caries-free unrestored human third molars were selected as tooth specimens. Provisional restorations were fabricated and cemented with eugenol-free provisional cement. Then, discs shaped ceramic specimens were fabricated and randomly assigned to four groups of dentin cleaning protocols (n = 9 each). Self-adhesive luting cement was used to bond ceramic discs to dentin surfaces. SBS was measured using a universal testing machine at a 0.05 mm/min crosshead speed.
Conclusions: The dentin cleaning methods did not significantly affect the SBS of ceramic discs to dentin ($p > 0.05$) as follows**:** dental explorer, pumice, cleaning bur, and Er**:** YAG laser.

Keywords: Laser, temporary cement, shear strength, adhesive cement

13. EFFECTS OF NITRIDE COATINGS ON ROUGHNESS AND STREPTOCOCCUS MUTANS ADHESION

Ozlem Colgecen, Hasan Onder Gumus, Sengul Danisman, Secil Abay
Turkey

Introduction: Streptococcus mutans is the most cariogenic bacteria in the mouth and play as an early colonizer on formation of dental plaque. The adhesion of this bacterium to fixed partial denture materials can be responsible for secondary caries and periodontal disease around the restoration. Modification of dental alloy surfaces with surface coating materials may be beneficial for preventing these problems. Titanium nitride (TiN) and Titanium aluminum nitride (TiAlN) coatings are widely used for improving the tribological performance of materials where high abrasion resistance, high hardness and corrosion resistance are required. Moreover, these coatings are biocompatible for medical applications. In this in vitro study, nickel-chromium dental alloy specimens were coated with TiN and TiAlN. Effects on roughness and adhesion of Streptococcus mutans of these coatings were investigated.
Materials and methods: A total of 45 disc-shaped specimens were prepared from nickel-chromium alloy and metallurgically polished in order to obtain mirror finish. Specimens were randomly divided into three groups (n=15). One of the groups served as a control. Other groups were coated with TiN and TiAlN by using PVD magnetron-sputtering technique. Roughnesses of specimens were measured by using profilometer. Amount of Streptococcus mutans (NCTC 10449) adhesion of each group evaluated by colony-forming unit counting method. Experimental results were analyzed with ANOVA.
Results: The roughness of the nickel-chromium alloy did not change after both TiN and TiAlN coating process. Amount of Streptococcus mutans adhesion on TiN coated specimens compared with the control group were decreased, but the difference was not statistically significant ($p>0.05$). However, amount of bacterial adhesion of TiAlN coated specimens were significantly reduced when compared with the control and TiN coated groups ($p<0.05$).
Conclusions: Nitride coatings can be successfully deposited on nickel-chromium alloy. Especially, TiAlN coating may be an alternative for preventing dental plaque accumulation and secondary caries around nickel-chromium alloy.

Keywords: Nitride coatings, S. mutans, Dental Alloy, Roughness

15. SURFACE OF A PREPARED TEETH AND ITS EXSPRETION ON THE SKIN

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Introduction: During teeth preparation for a metalceramic or fullceramic crown it is nesesary to remove a part of tooth structure, mainly enamel and a part of dentin. During and after that preparation the dentin tubules are exposed to influences from the surrounding and they are painful after the end of anesthesia. According to Leif Tronstad there are 8000 dentin tubules on square mm on the enamel-dentin border, increasing to 20000-30000 tubules on half way to the pulp and 50000-60000 tubules near the pulp. The aim of this investigation was to measure the surface of the prepared teeth and to calculate number of nerve endings, and to make a comparison to the different parts of the human skin.
Method: In this investigation we have been using ten teeth from mandibula and maxilla, a third molar whit fully preserved and developed crown which we have gained from surgical removal of impacted third molars. The teeth have been measured before the preparation using a fine scale measurement device, then prepared on a usual way for metal ceramic crown and the measured again using the same fine scale measurement device.
Results: The results shoved a variation depending from the size and the morphology of the teeth used for this investigation.
Conclusions: If we compare the number of nerve endings in dental tubules per square mm to the number of nerve endings per square centimeters on the human skin we see that the prepared teeth has a huge number of nerve endings and that it is absolutely necessary to make a provisional restoration in order to protect the teeth and the patient from pain.

Keywords: surface, teeth, skin

16. PUSH-OUT STRENGTHS OF 4 DOWEL SYSTEMS LUTED 2 RESIN CEMENTS

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Turkey

Introduction: Various dowel systems are routinely used in combination with bonding/luting materials to restore endodontically treated teeth. A number of studies have indicated the favourable properties of dowel systems in combination with several luting agents and adhesive systems. The aim of this study was to evaluate the push-out bond strength of different dowel systems, luted in canals with two different resin cements.
Materials and methods: Ninety-six maxillary central incisor teeth were sectioned below the cemento-enamel junction, and the roots were endodontically treated. The roots were divided into 2 cement groups (Multilink Automix (Ivoclar, Vivadent), Clearfil Esthetic Cement (Kuraray, Osaka,Japan**)**, and then divided into 4 dowel subgroups (Stainless Steel Dowels (SSD), Resin supported polyethlen fiber dowels, Zirconia dowels (ZD), Superpost glass fiber dowels) of 12 specimens each to test different luting strategies. Bonded specimens were cut (1-mm-thick sections) and push-out tests were performed (crosshead-speed, 0.5 mm/min). An analysis of variance (ANOVA) was used to analyze logarithmic transformations of data (cement and dowel materials) for significant differences. Tukey HSD test and paired t tests were used to perform multiple comparisons ($\infty=0.05$).
Results: Micro push-out bond strengths were significantly

affected by the type of post (p<0.05). Two way ANOVA results indicated that the push-out values varied according to the dowel system and luting cement used (p<0.05). The push-out bond strength values for SSD (50 ± 23,1), ZD (39,8 ± 12,8) and GFD (43,5 ± 26,3) were not significantly different (P>0.05), but the means for RSPFD (62,6 ± 20,3) were significantly higher than other dowel systems (P<0.001). When the bond strengths were compared, the same values were observed for the luting materials.
Conclusions: Resin supported polyethylene fiber dowels exhibited higher push-out bond strength compared to other dowel systems. Multilink Automix and Clearfil Esthetic cements showed similar push-out bond strength for all the dowel system groups.

Keywords: push-out test, bond strength, resin cements

17. EFFECT OF ER: YAG LASER ON DEBONDING STRENGTH OF LAMINATE VENEERS

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Turkey

Problem**:** Although the efficiency of Er**:** YAG laser debonding of ceramic brackets was confirmed with several studies in the existing literature, there is no study about the efficacy of laser debonding of laminate veneers.
Purpose**:** The purpose of this in vitro study was to evaluate the debonding strength of all-ceramic laminate veneers after using Er**:** YAG laser.
Materials and methods: Sixty bovine mandibular incisor teeth were randomly divided into 2 groups (n=30). Cylindrical specimens with a thickness of 0.7 mm and a diameter of 5 mm were fabricated from Empress II ceramic material. Then, they were cemented on the labial surface of incisors using dual-cured resin cement (Variolink II) and light cured for 40 seconds. The first group was assigned as the control group and no laser application was performed. The laser selected for this study was Er**:** YAG laser (VersaWave, HoyaConbio, Freomont California, USA) and applied without water at a power of 5 W (50 Hz × 100 Mj) with a wavelength of 2940 nm. The application tip with a diameter of 1 mm was positioned perpendicularly and non-contact at 2 mm distance apart from the laminate veneers. The Er**:** YAG laser was applied on each laminate veneer at the test group for 9 seconds by using the scanning method. Shear force to remove the laminate veneers was applied with universal testing machine at a crosshead speed of 1 mm/min, immediately after the lasing.
Results: Results: of this study exhibited statistically significant differences between the control (27.28 ± 2.24 MPa) and test group (3.44 ± 0.69 MPa). The shear test showed lower bond strength in the laser irradiated group (p=0.0001).
Conclusions: This study shows that application of Er**:** YAG laser decreased the bond strength of laminate veneers.

Keywords: Er**:** YAG laser, laminate veneers, shear bond strength, debonding, scanning method

18. COMPARISON OF DIFFERENT GRINDING PROCEDURES ON THE FLEXURAL STRENGTH OF ZIRCONIA

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Turkey

Statement of problem: The surface of the zirconia ceramic is damaged during grinding and this affects the mechanical properties of the material.
Purpose: The aim of this study was to compare the biaxial flexural strength of zirconia after different grinding procedures and to measure the temperature arise from grinding.
Materials and methods: Forty disc-shaped zirconia specimens (15 mm in diameter and 1.2 mm in width) with a smaller disc in the middle of the each disc (1 mm in diameter and 1 mm in width) were divided into 4 groups (n=10). They were ground with high-speed hand piece and micromotor until the smaller disc were removed with 2 different grinding time; continual grinding and periodical grinding (10 s grinding with 10 s duration). Control specimens (n=10) were analyzed without grinding. The biaxial flexural strengths of the discs were determined in a universal testing machine at a crosshead speed of 0.5 mm/min. The fracture load (MPa) was recorded, and the results were analyzed using One-way ANOVA, Tukey HSD test, Student t test and Pearson correlation test at a significance level of 0.05.
Results: All grinding procedures significantly decreased flexural strength (P<0.01). Mean flexural strength of high-speed hand piece groups were numerically higher (815 MPa) than micromotor groups (718 MPa). Temperature values arose from micromotor grinding (126.75 ºC) were significantly higher than high-speed hand piece grinding (62.65 ºC) (P<0.01).
Conclusions: Grinding of zirconia decreased flexural strength. Zirconia material ground with high-speed hand piece continually caused minimum drop in flexural strength.
Clinical Implications**:** This in vitro study suggests that if adjustments are required for zirconia restorations, grinding with high-speed devices in the clinical situations may help to prevent mechanical damage of zirconia ceramics.

Keywords: zirconia, grinding, flexural strength

19. STRESS DISTRIBUTIONS IN ENDODONTICALLY TREATED MAXILLARY CENTRAL INCISOR RESTORED WITH DIFFERENT POST AND CROWN MATERIALS: A 3D FINITE ELEMENT ANALYSIS

Ozgun Yusuf Ozyilmaz, Mujde Sevimay, Oguz Eraslan
Turkey

Introduction: Restoration of endodontically treated teeth is a common problem in restorative dentistry, related to the fractures occurring in such teeth. It is necessary to

obtain appropriate post and crown material to with stand occlusal forces. The purpose of this study was to evaluate the influence of different post and crown materials on the stress distribution of the restoration-tooth complex, using FEM.

Materials and methods: s. 3-D FE models simulating an endodontically treated maxillary central incisor restored with 2 different post materials (everstick and cosmopost) and two different all-ceramic crown materials (IPS Empress e.max and Cercon) were prepared. The nodes of the root surface in the FE models were fixed in all directions as the boundary conditions. A 300 N static occlusal load was applied to the palatal surface of crown with a 135 degree angle to the long axis of the tooth. The differences in stress transfer characteristics of the models were analyzed.

Results: Maximum stresses were concentrated on force application areas for all models (10 MPa). The stress values observed with cosmopost (2.5MPa). were higher than that of everstick (1.6MPa). Maximum stresses were observed at buccal and lingual cervical margins of crown for both Cercon and e.max crowns (5.8 MPa, 5.0 MPa). But the stress values and distribution in e.max were more homogeneous and lower than Cercon crown.

Conclusions: The result of this study demonstrated that use of an everstick post in endodontically treated teeth restored with e.max ceramic reduces the values of von Mises stresses on tooth-restoration structure.

Keywords: finite element, esthetic post, full ceramic

20. THREE-DIMENSIONAL FINITE ELEMENT ANALYSIS OF HUMAN TEMPOROMANDIBULAR JOINT DURING JAW OPENING

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Serbia

Prosthetic rehabilitation, reconstruction of the occlusion, craniomandibular dysfunction therapy are not possible without proper knowledge of the anatomy and physiology of the temporomandibular joint (TMJ) and complete orofacial system. Teeth occlusal loading as well as loading of all craniofacial structures respectively, present an important factor for proper functioning and developing of mentioned structures. Overloading on the other hand may be an etiological factor for deleoping pathologcal conditions in the craniofacial structures. Distribution of the occlusal loading througout cranifacial structures is not well documented so far, while some scientific investigation ephasize the relation between TMJ loading and craniomandibular dysfunctions. The aim of this research was to analyse occlusal loading distribution inside the TMJ structures, especially discus articularis during jaw opening.
For obtaining the virtual model oh the TMJ structures, CT images from the male patients age 21 were used. According to CT images a solid model of the TMJ was designed. The solid model was afterwards meshed in finite elements with later occlusal loading simulation performed.
During jaw opening, the loading of the discus articularis is increasing gradually from rotation movement until inicial opening of 20 mm interincisal separation. During the translation movement of TMJ condil, the loading is intensive over anterior part of intermediate zone and anterior anulus of discus articularis. The rotation movement of the condil induces less loading of discus articularis than translation movement. As far as the translation movement is concerned the observed loading values are greates in the position of maximum jaw opening. Also, the greates loading values are observed in the region of anterior intermediate zone and anterior anulus of discus articularis.

21. THE IMPLANT PROSTHETIC REHABILITATION IN THE PATIENTS WITH PARAFUNCTIONS

Vasile Nicolae, Viorel Ibric Cioranu, Dumitra Dana, Silviu Nicolae, Vlad Sorin Ibric Cioranu, Iulia Nitu
Romania

Introduction: The bruxism, one of the major afflictions of the dental-maxillary complex. It affects almost half of the population of the countries in which studies have been done on this theme. These studies have pointed out important signs of wear of the occlusal surfaces of the teeth. The evaluation and the rehabilitation of the patients with bruxism is a challenge but in the same time it can be done through a few techniques with therapeutical success.

Objectives: This study will resume to a simple and easy method, highly efficient, but which is still used rarely**:** the placement of the occlusal tray of the dental arcades with the strenghtening of the funtional use of the previous trays.

Materials and methods: The bruxism is one of the most important causes of the atrition and of the negative biological phenomenon caused by this, which is why the practitioner must identify a few evaluation criteria of the patients with potential in developing this affliction**:** The diagnosis of the early signs of bruxism;The early identification of other causes which lead to the wear of the teeth; The identification of the factors which intensify the bruxism; The control and the application of the techniques which eliminate the process of wear of the teeth; The identification of all the methods which prevent the worsening of the bruxism.

Conclusions: We consider that the therapy through the application of an anterior tray represents a treatment without medication, cheap, efficient and without adverse effects for many persons which suffer from headaches. If we add the increased comfort, the high degree of acceptance and the short spam of adapting with the new type of device, we consider that we have sufficient arguments in recommending the treatment with anterior tray in the case of the buxism and of the adiacent disfunctions.

Key words**:** bruxism, tray, occlusal disfunctions

22. THE AESTHETICS OF ADHESIVE CEMENTATION OF ALL-CERAMIC FIXED PARTIAL DENTURES

Dan Patroi, Maruis Gociu
Romania

It is a fact well known that the patients want their replaced teeth to look natural. We know that all-ceramic FDP give us the best aesthetic solution in order to meet our patient's desire. But are these things enough? Certainly there are many dental technicians who can make exceptional full ceramic veneers, crowns and bridges, but the dentists have to fixe them to the teeth. So the dentist has at least to preserve what the technician has done. But what if by using adhesive cementation the dentist could improve the technician work and could achieve a higher aesthetic result of the all-ceramic restorations?

23. PSYCHOLOGICAL PROFILE OF TMD PATIENT

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Romania

The aim of this study is to evaluate the relationship between psychological factors and TMD. The research is based on a statistic and annalistic observation of the psychological profile of patients with TMD versus a clinical healthy group. The severity of dysfunction has been calculated using Helkimo Index. Psychological evaluation was made using SCL-90/RO test.
The results indicate a high percent of psychological disorders (depression, somatic action, compulsive obsession, anxiety or sensitivity in human interaction) in patients with TMD.

24. THE USE OF UNIVERSAL TRANSFERBOW SYSTEM - UTS IN THE CONSTRUCTION OF REMOUVABLES TOTAL AND PARTIAL PROSTHESIS IN STRATOS 200

Edit Xhajanka, Alketa Qafmolla, Lauren Muhametaj, Endrit Paparisto
Albania

The Universal Transferbow System (UTS 3D) was developed on a scientific bases and can be adjusted according to different orientation planes. It is a fact that there are larger and smaller jaws. The Bonwill triangle (108mm) of various patients may differ up to 50mm, depending on the size of the skull. Individual, spatial model orientation by means of transferbow, takes these parameters into account and helps avoid occlusion errors.
Purpose of study**:** The construction of removable prosthesis with individual data, using the UTS, that permits the spatial transfer of a patient's individual Bonwill triangle according to the joint elements of the articulator.
Materials and methods: During six years we have constructed 133 Bio-Functional total and subtotal prosthesis, In 71 patients we have registered the individual data with the Universal Transferbow System. With the UTS, models can be oriented according to Camper's plane, the Frankfort horizontal, and the sagittal median plane. The articulator Stratos 200 permits according to these reference planes. We made the comparison between the 71 prosthesis constructed with individual values and 62 prosthesis, constructed with average values. For the PMMA polymerization in both patients groups is used the SR-Ivocap method.
Discussion and results**:** The patients of both groups are controlled immediately after the putting of the prosthesis for the achievement of the bilateral balanced occlusion and interferences during mandibular movements. In the prosthesis constructed with UTS there were not any interferences (0 %); in the other group the interferences were present in 25 % of the patients. This problem derives from the difference of Bonwill triangle values in the patient with the Bonwill triangle of the articulator, especially in extreme dimensions of the skull.
Conclusions: The individual registering with UTS helps to prevent occlusal errors and reduces the amount of time-grinding adjustments. The use of the UTS is especially indispensable in patients with pathological occlusions and extreme skull dimensions, for the achievement of a perfect bilateral balanced occlusion.

25. USE OF IMPACTED 1.8. IN FIXED DENTAL PROSTHETIC SOLUTIONS

Marjan Stojanovski
FYROM

Case**:** Patient with partial bilateral toothless,on the right side terminal toothless.It was proposed solution with implants, but after objective clinic observation, panoramic X-ray and general health condition that solution was not possible. During observation of panoramic X-ray we noticed that on the place where with clinic observation we thought we have terminal toothless there is impacted tooth 1.8. **Objectives:** Possible use of impacted tooth in future fixed prosthetic solution.
Materials and methods: On the X-ray we clearly see that the crown of 1.8. is generally in soft tissue and we made gingivectomy with soft tissue laser.After clinical examination of 1.8., tooth was in very good condition without any luxation.It was made titanium telescope crown on 1.8. with very high hygienic margin.The crown was cemented and later used in CAD CAM Titanium ceramic dental bridge 8xxx43.
Results: Final product was stable fixed prosthetic solution and intact dental arch in upper jaw. After 1 year We made check up,and the patient and the dental bridge was in perfect condition.**Conclusions:** Somethimes when impacted teeth's are placed in their natural position in dental arches is possible to be used in prosthetic solutions and to be avoided extractions at any cost witch is very common in practice.

26. RE-TREATING A DENTITION WHILE

PRESERVING NATURAL TRANSLUCENCY WITHLITHIUM DISILICATE

Bariş Karabulut, Atakan Kalender, Deniz C. Can-Karabulut
Turkey

Introduction: Dental ceramics with high translucency are useful when the overall enamel color is pleasing and the onlyrestorative goal is to replace external colored composite surfacewithout changing the tooth form significantly. However, to date an inverse proportion between the mechanical performance and optical properties exists. Ceramics with high strength tend to be more opaque while matching natural tooth color.
Case report: The patient's main complaint was about thediscolored teethrestored with composite laminate veneers previously.Because the occlusion or color will not be altered translucent ceramics were preferred due to their enamel like appearance.The treatment goals were to manage the discoloration and yet retain as much of the original volume of the tooth structure. A prospective restoration was visualized by diagnostic wax-up and mock-up techniques. For a conservative enamel preparation silicone matrix was used as a reference for tooth reduction.Regarding selection of the ceramic framework, a feldspatic porcelain (aluminosilicate glass) reinforced with lithium oxide was chosen to manufacture the inner coping of the restorations and latter covered with fluor-apatite ceramics.
Conclusions: With the great variety of clinical situations, not all ceramics behave as required. The dental porcelain material best suited to the physical and optic requirements of each case should be selected. The knowledge of the optical properties is important in making appropriate choices. For teeth with normally colored preparations like in this case, translucent materials enable clinicians to reduce less tooth structure. For the requirements for optical properties the translucent systems, eitherfeldspathic or pressed ceramics (glass ceramics) should be used owing to their ability of bonding to tooth structure, as well as to their translucencywhile zirconium oxidehave a very poor translucency and inadequate mechanical retentive ability.By combining the press and layering technique, highly aesthetic, strong veneers can be created.

27. ORAL HEALTH RELATED QUALITY OF LIFE IN ELDERLY PEOPLE

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Introduction: Loss of some or all of the natural teeth may be experienced either as a restricted local body injury or a socially limiting condition. Many older adults have problems with chewing, difficulty in eating and social relationship because of the loss of teeth. These problems may affect in their quality of life.The aim of this study was to assess changes in OHRQoL among patients before and after having placement dentures using OIDP index.
Materials and methods: 63 functional independent patients were studied, being 51,0% females and 49,0% males, all were aged ≥65 years. Patients were interviewed by a single trained interviewer using OIDP (Oral Impacts on Daily Performance) index which had been translated into the serbian language, tested and validated for use in Bosnian population. The OIDP questionnaires focused on the impact of oral health on the performance of 10 daily activities. Oral health status and quality of life were assessed before and after an adequate prosthetic treatment. The OIDP score expressed as the sum of the different performance scores dividid by the maximum possible score, and then multiplied by 100 to provided a percentage score.
Results: When comparing results before with the results after prosthetic treatment statistically significant difference existed with regard to the following daily activities**:** eating, speaking, laughing, emotional state, going out and enjoying the contact with other people ($p<0,05$ i $p<0,01$). The mean OIDP scores for the patients before and after treatment were 13,0 and 3,2, respectively. There were significant differences between OIDP scores for all subjects before and after prosthetic treatment ($p<0,001$).
Conclusions: This study showed that patients after treatment reported lesser impact on OHRQoL compared to results before treatment. Also, it demonstrated a great improvement in all performances in patients after placement of dentures.

28. THE BEHAVIOUR OF DENTAL STUDENTS TOWARDS PATIENTS WITH TRANSMISSIBLE DISEASES

Diana Antonela Diaconu, Monica Silvia Tatarciuc, Cristina Gena Dascălu, Anca Mihaela Viţalariu
Romania

Introduction: Knowing the ethical and deontology principles it's a fundamental request for every doctor or medical student. In dental medicine, like in every medical field, the professional activity is coordinated by the principles of Code of Medical Deontology, that contains rules of moral behaviour and professional duties. The educational process doesn't concern not only in acknowledges implementation, technological and clinical skills apprentice, but the development of the moral features as well, in order to create the possibilities to develop their profession according to bioethics principles. The aim of this study was to evaluate the attitude of our students towards patients with chronic transmissible disease (hepatitis, HIV/AIDS).
Material and method: We realized a questionnaire including 10 items. The 3rd-6th year students answered affirmatively or negatively, including a short motivation for every answer. A number of 200 students realizing clinical activities were included in the study. We realized a comparative analyze of the registered results according to the level of education. The statistical analysis was performed with SPSS16.0 program.
Results and conclusions: The results were represented in

diagrams and tables, separately for every study year and in comparison between them. The results show that even they didn't studied the ethical principles, the dental students have a positive attitude towards patients with chronic transmissible diseases. This behaviour is based on the humanistic approach of the social relationship. Most of the respondents disapproved doctors who refuse to treat patients with chronic transmissible disease, judging this attitude as a severe discrimination and violation of the patient rights.

Keywords: moral behaviour, professional duties, attitude of students, patients with chronic transmissible disease

29. RESTORATION OF A NONRESTORABLE CENTRAL INCISOR USING FORCED ORTHODONTIC ERUPTION, FRC INTRACANAL POST AND ZIRCONIA-CERAMIC RESTORATION

Pinar Cevik, Ozlem Akinci
Turkey

Introduction: Trauma with accompanying crown or root fracture of young permanent incisor is a major problem and a tragic exprience for teenagers and creates a pyscological pressure on both the parents and teenagers. These cases are sometimes treated with an impant placement after extraction of the related tooth. We present here an alternative multidisciplinary treatment of severely damaged root in a young patient.
Case Report: This case report describes the management of complicated maxillary lateral insisor crown fracture with apical cyst resection, orthodontic eruption and the final zirconium-ceramic restoration. A 20-year-old boy was referred to the Department of Prosthodontics at the Selcuk University Faculty of Dentistry with a crown fracture of traumatic nonrestorable maxillary left lateral insisor. Patient's history indicated that the related tooth had been restored with screw intracanal post and metal ceramic prosthetic restoration without root filling. After radiographic examination, an apical cyst was determined of lateral insisor. Endodontic retreatment of related root was done but no clinical healing was observed. About 2 mm of apical resection was performed and apical bone of the root was let go healing. Five months later new bone regeneration around resection area was observed. After intracanal fiber reinforced composite post with composite core building application, root was orthodontically extruded. Metal brackets bonded from the maxillary right canine to the left canine including the root with composite core structure. Following a 5-week extrusion period the extruded tooth was stabilized for 13 weeks by same bonded brackets. During this time, the patient was motivated about oral hygiene procedures. For final prosthodontic restoration, the core build-up material replaced on subjected tooth.
Conclusions: The full crown preparation for zircon-ceramic restoration was performed to achieve a good esthetic result.
Finally, the tooth was restored with zirconium ceramic full crown restoration.

Keywords: orthodontic extrusion, prosthetic rehabilitation

30. GLASS FIBER REINFORCED FIXED PARTIAL DENTURES EVALUATION

Luciana Goguţă, Corina Mărcăuţeanu, Anca Jivănescu, Enikö Tünde Stoica
Romania

Introduction: Glass fiber reinforced composites have been used in the last decade in dentistry, but there are few clinical studies regarding the resistance of glass fiber reinforced fixed partial dentures.
Material and methods: The objective of our study was the clinical preliminary evaluation of the glass fiber reinforced dental restorations, regarding their strength. The restorations evaluated in this study were 22 glass fiber reinforced composite fixed partial dentures (FPD) which were used to treat single edentulous areas. The average of the follow up period was up to 36 months. The glass fibers used in this study were unidirectional glass fibers. The FPD were retained with wings or inlays that were bonded to tooth structure. The recall of the patients was made twice per year. The follow up included: the extrusion of the glass fibers; the failure of the bonding between the glass fibers and the adjacent teeth; the fracture of the restorations was considered complete failure. The data were analyzed with the Kaplan-Meier survival test (alpha=.05).
Results: Two of the evaluated restorations showed the extrusion of the glass fibers at the margins of the restorations but they could be easy repaired and were in good shape at the end of the follow-up period. One bridge has failed showing a connector fracture. And two FPD were de-bonded at the end of the follow up period. The Kaplan Meier survival rate was 86, 3% after 36 month (mean).
Conclusions: The glass fiber reinforced composite restorations (FPD) are fast, esthetic and also resistant enough for some time (36 month) according to our study. These types of restorations are useful especially in patients where implant restorations are not allowed (children, patients with general problems or who refuse implant treatments).

Removable Prosthodontics

1. PROSTHETIC REHABILITATION USING BAR HOLDER ON MAXILLA AND BALL HOLDER ON MANDIBULA

Deniz Gursoy, Fehmi Gonuldas, Dogan Derya Oztas
Turkey

Introduction: Bone resorptions in jaws, which occurred following the tooth extractions, make it difficult for the

use of dentures performed in conventional methods. As a result of the resorption, the loss of stabilization and retention appear on this prosthesis. Aesthetic degradations raise the expectations of the patient. Therefore, the use of implant supported removable partial dentures, which restores the soft tissue contours, gives highly successful results.

Case report: 51-years old female patient expressed that she wants a fixed denture instead of a removable dentures. As a result of the clinical and radiological examination, severe loss of alveolar bone support was observed. Due to loss of bone, decrease in patient's lower face height has appeared and as a result of the loss of the lip tissue support in the lips has emerged as serious aesthetic problems. For this reason, the construction of implant supported dentures, which will help support the lips and soft tissues, has been decided. 2 implants on mandibula and 4 implants on maxilla were placed. The installation process denture implants of which their 3-4 osteointegration process was completed began. It was decided to perform ball holder overdenture on mandibula and bar holder overdenture on maxilla owing to the position of the implants' entry angle. Shoulder bar abutment was chosen on the model and its plastic for castable connection abutment was located. Bar parts, were attached by the wax to the pourable plastics and its metal casting was done. Bar holder alignment has been checked and the skeleton framework's alignment with the mouth was checked too. Maxillo-mandibular relationship was recorded and aesthetic, phonation and occlusal relationships were evaluated during the fitting. The denture was concluded with conventional methods and the patient's follow-ups were made routinely.

Keywords: overdentures, implants, bar attachment

2. EVALUATION OF TOTAL UNSTIMULATED SALIVA VISCOSITY IN COMPLETE EDENTULOUS PATIENTS

Murineanu Rodica Maria, Corina Stefanescu, Agripina Zaharia, Carolina Davidescu, Sorin Popsor
Romania

Purpose: Clinical and laboratory assessment of total unstimulated saliva viscosity in order to evaluate the quality of saliva in edentulous patients wearing complete dentures. Materials and methods: A number of eighty patients, of both sexes participated in the investigation: a control group, 40 patients aged 25-60 years, and a test group, 40 patients aged 45-75 years, edentulous patients treated with acrylic dentures.

Clinical method used: Saliva collection was done from the floor of the oral cavity using a dental mirror. With the dental forceps salivary try forming a filament. Laboratory method used: Viscosity determination was made using saliva viscometer type Brookfield digital cone-plate.

Results: Compared to the average values from literature, from the control group observed a change in salivary viscosity in 6 patients, 5 of them suffer from various general diseases. In the test group, shows the modified salivary viscosity 25 of 33 patients suffering from various general conditions. Modification of salivary viscosity on the remaining 8 patients could be attributed to wearing acrylic dentures because they do not suffer from any illness, is generally not found in any drug treatment and wear dentures over five years, while the remaining 7 healthy patients does not have these changes because of shortly wearing.

Conclusions: The laboratory test method results correlate with clinical test results for determining the viscosity of saliva. In these tests it is found that the viscosity is changed in both groups (control and test). These changes in salivary viscosity may be attributed to general diseases and medications. For the entire test group we observed an increase in salivary viscosity including those who apparently do not present any general disease, these changes can be caused by wearing complete acrylic dentures, which change the temperature and pressure inside the space between the denture and the surface support.

Keywords: saliva, viscosity, complete edentulous

3. STUDY OF STRESS AND STRAIN DISTRIBUTION ON A PARTIAL DENTAL PROSTHESES

Monica Andronache, Norina Forna, Paul Barsanescu, Bogdan Leitoiu
Romania

Introduction: The photoelasticity method is an often used method in stress and strain generated in the removable partial dentures on the prosthetic field elements analysis.
The stress and strain state analysis of the prosthetic field at the level of removable denture with attachments is measured with the reflection Vishay polariscope LF/Z-2, by a computerized photoelasticity method. A stress and strain distribution map was obtained from the fringes. Adverse effects of prosthetic field elements are prevented by a correct design of the partial removable denture on this method.

Material and methods: The stress and strain distribution within the partially removable dental prosthesis was made by means of a reflection polariscope and PSCalc computer software, LF/Z-2, made by Vishay Micromeasurements

Results: In this test, we studied the biomechanical behavior of the lingual area of the prosthesis held in place by means of special sustaining and stabilizing elements (at the level of friction bar) and of the main conector after having applied the photoelastic coating on the entire prosthesis.

Conclusions: In case of the hybrid prosthesis, we notice a stress concentration in the points corresponding to the support given by the counter clasps applied at the level of thresholds created on the lingual faces of crowns of teeth 37 and 35. At the biomechanical behavior analysis of the main connector from the hybrid prosthesis, the results of measurements highlight a strong compression in point 1 (corresponding to the area of the main connector from quadrant 3), a weaker one in point 3 (corresponding to the

area of the main connector from quadrant 4), with an (almost) linear variation between these points.

Key words: partial removable denture, PhotoStress method, stress and strain analysis,

4. EVALUATION OF TOTAL UNSTIMULATED SALIVA VISCOSITY IN COMPLETE EDENTULOUS PATIENTS

Murineanu Rodica Maria, Corina Stefanescu, Agripina Zaharia, Carolina Davidescu, Sorin Popsor
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Keywords: saliva, viscosity, complete edentulous

5. EVALUATING THE POLIMERIZATION PROPERTIES OF THREE AUTOPOLIMERIZING HARD RELINE MATERIALS

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Turkey

With the improvement of hard reline materials, direct relining technique of unadaptable removable dentures provides high advantages to conventional indirect technique. Relining procedure in indirect technique, with at least two appointment, with impression and laboratory procedure decreased only 10-15 minutes in one appointment with autopolimerizing hard reline materials. By reason of polymerizing these materials intraorally, their characteristic properties are very important to us. For example initial and final time of polymerization, warming up degree and energy dispersion must be significant to choose the material. In our study, Ufi Gel Hard, Gc and Zhermack Elite hard reline materials are evaluated. The materials are measured isothermally in room (250 C) and body temperature (380 C) with Perkin Elmer Sapphire DSC apparatus. The polymerization time and the polymerization temperatures are studied. The analysis are done in Firat University Physics Department. We believe this study will be elucidatory of choosing the hard reline materials.

Keywords: hard relining, polimerization, DSC

6. IMPACT OF NEW PROSTHESES ON THE OHRQOL OF ELDERLY PATIENTS

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Serbia/ Bosnia and Herzegovina

Introduction: Older people can be very well adapted to the existing dentures and they will not ask for prosthetic tretment even old dentures cause changes in oral mucosae, muscle or TMD. Although such prostheses may need to be remade after a number of years, it is not apparent if their replacements would result in an improvement in quality of life scores.The aim of this study was to determine changes in the subjects' assessment of their existing and replacement dentures on oral health related quality of life parameters. Methods: A total of 35 subjects (54,0% females and 46,0% males) were studied; all were aged >65 years, were completely edentulous, wore complete dentures on both arches. Existing complete dentures were assessed by prosthodontist using a validated method for assessing denture quality. Also, patients rated satisfaction with existing dentures and it was made a decision for replacement existing dentures. The OIDP questionnaire was used to collect information on patient's oral health-related quality of life with the previous and new prostheses. Results**:** The impact of existing dentures on quality of life was apparent. The oral problems were the most pronounced during eating (37.1%) and speaking (20.0%) and substantial difficulties were found in the domain of psychological and social sphere. When comparing results before with the results after new prosthetic treatment statistically significant difference existed with regard to the following daily activities: eating, speaking, emotional state, going out and enjoying the contact with other people ($p<0,05$ i $p<0,01$). Conclusion**:** Although this group of edentulous subjects may need their dentures replacing, this does not

necessarily have significant impacts on oral health related quality of life parameters. The provision of new complete dentures generally resulted in improved some daily activities.

Keywords: OIDP questionnaire, older people, dentures

7. THE ORAL REHABILITATION OF THE KENNEDY I CLASS PARTIAL EDENTULISM SOCIAL CASES

Doriana Forna, Cosmin Popa, Magda Ecaterina Antohe
Romania

The frequency of Kennedy I Class edentulism and the morphofunctional aspects that individualize this clinical entity are at the bottom of developing a complex therapeutical strategy and of selecting a correct and suitable solution of treatment.
The aim of this study is to highlight and to identify the oral rehabilitation methods of Kennedy I Class partial edentulous pacients, an important criterion that influence the therapy being represented by the social and economical aspect.
Material and method: The Kennedy I Class partial edentulous patients treated in The Dental Clinic of the Faculty of Dental Medicine from Iasi, were mostly subjects of an low social profile, beneficiating of removable partial dentures for reestablishing the cranial-mandibulary correct positions.
Results and discussions: Acrylic removable partial dentures represent the most used treatment solution for social purposes, rehabilitating from the morphofunctional point of view and creating the premises for their replacement whenever an advanced solution is requested, such as skeletized dentures or implants.
Conclusions: The selection of the therapeutical solutions in Kennedy I Class edentulism is influenced by an cumulative factors, according to the clinical case particularities and the social and economical criterions, for the social cases the main purpose remaining the functional ehabilitation.

8. CRITERIONS IN SELECTING THE IDEAL SOLUTION FOR TREATING THE EDENTULISM AND ITS COMPLICATIONS

Meriuta Ciprian, Doriana Forna, Asist Dr.Magda Ecaterina Antohe
Romania

The ideal solution in treating the edentulism is the result of an accurate clinical and paraclinical evaluation corroborated with the aspects regarding the correct implementation of the principles of treatment: prophylactic, biological, bio-mecanical and currative.
The purpose of this study is to identify the factors that influence the selection of the ideal solution in cases with complicated edentulism, an accurate analysis being necessary for achieving a good viable final treatment.
Material and method: A number of 120 pacients diagnosed with patial edentulism were clinicaly and paraclinicaly investigated. The principle of treatment were individualized and corroborated with clinical and biological parameters, regarding the general health state, local and regional status, without excluding the social-economical aspects in concordance with technological endowment.
Results and Discussions: The criterions in selecting the ideal solution are complex and difficult to standardize because they are specific, depending on the clinical case particularities. The biomecanic principle holds an important role that direction the practitioner in selecting the ideal appliance, either fixed or removable. On equal terms, the biological and the currative principles plead for selecting a certain biomaterial correlated with the technological process.
Conclusions: Each clinical case is having a possible ideal therapeutical solution based on a complex algorithm of conception, selection and materialization.

General – Dental Medicine Confluences

1. STUDY REGARDING UTILIZATION OF MANAGEMENT, PREVENTION AND ERGONOMICS IN DENTISTRY IN ROMÂNIA

Naicu Vlad, Sergiu Drafta, Ana Petre, Radu Stanciu
Romania

Aim: The main objective of the study is to find out the training level in ergonomics, prevention and management of staff in modern dentistry. This objective will provide courses that will increase adaptability of workers, promoting flexible forms of work organization and professional training.
Materials and methods: The total volume of the sample was 300 subjects allotted to the five national development centers that participate at the study: Bucharest, Ilfov Bucharest, Iasi, Constanta, and Timisoara. Maximum error is +/- 4.0% at a confidence level of 95%. Data collection is done by a questionnaire survey. Questionnaires will be filled by the face to face, method in the dental office. Interpretation of results is achieved by medical Biostatistics; results are among others: 79% of respondents believe that dental office management increase efficiency in the office activities and ensure a continuous development of business (63%). A significant proportion (27%) believe that management can ensure the flow of patients in the office that represents an important element for a healthy long term business. 86.80% respondents believe that universities should offer more postgraduate courses in Dental Ergonomics. 73.0% of the subjects declare that the preoccupation for infection risk influences their clinical decision. The concern for infection transmission prevention was found to be higher in female than in male subjects and in the 35–45-years age group ($p < 0.05$). Half of the investigated practitioners (50.4%)

collaborate with a dental assistant and 83.4% of the subjects are periodically tested for blood-transmitted diseases.
Conclusions: Extended programs are necessary in order to promote an eficient perception of the management, ergonomics and prevention tools in dental medicinein Romania.
Acknowledgments: This research supported by the European Project WAS Ergonomics, Prevention and performance management in dental medicine by adopting European Standards Contract**:** POSDRU/81/3.2/S/55651, 2010-2013

Keywords: management, prevention, ergonomics

2. GARDNER SYNDROME: A CASE REPORT

Sebnem Kursun, Bengi Öztaş, Erdal Erdem, Kivanc Kamburoglu
Turkey

Gardner Syndrome also known as familial colorectal polyposis is an autosomal dominant form of polyposis characterized by the presence of multiple polyps in the colon together with tumors outside the colon.
Dental anomalies are present in estimated 70% of all affected individuals.These abnormalities may include supernumerary teeth, compound odontomas, hypodontia, abnormal tooth morphology and impacted or unerupted teeth.The highest incidence of dental abnormalities is found in patients with multiple osteomas, but dental changes may be determined in the absence of skeletal lesions and the dental anomalies are not secondary to bony changes.
Cutaneous lesions that have been described in Gardner syndrome include fibroma, lipoma, leiomyoma, neurofibroma, basal cell carcinoma and pigmented skin lesions.
This report is deal with the clinical manifestations and radiological findings of 24-year-old patient with Gardner Syndrome.
Case report: 24-year –old male patient was attended to Ankara University Department of Oral and Maxillofacial Radiology with the complaint of intermittent pain on his anterior teeth.His medical history revealed that he had Gardner syndrome without any genetical family history and had operation because of malignancy in his colon in 2009. Panoramic radiography showed multiple osteomas and odontomas on his jaws.He had multiple fibromas on his face, legs and arms.Patient was directed to related department because of his complaint.He is on routine follow-ups.
Conclusions: It is important to be aware of dental manifestations of this syndrome by dentists. Early detection of jaw osteomas and/or dental abnormalities by dentists could lead to further investigations and treatments of Gardner Syndrome and this could save patient's lives.

Keywords: gardner syndrome, osteoma, odontoma

3. RADIOGRAPHIC EVALUATION ON PREVALENCE OF STAFNE BONE DEFECT: A STUDY FROM TWO CENTERS IN TURKEY

Omer Demirtas, Yildiray Sisman, Ozkan Miloglu, Ahmet Ercan Sekerci, Ahmet Berhan Yilmaz
Turkey

Objectives: The objectives of this study were to investigate the frequency of Stafne bone defect (SBD) and to describe the clinical and radiological characteristics of detected cases.
Materials and methods: A retrospective study was performed using panoramic radiographs from 34,221 patients undergoing dental treatment in the Department of Oral and Maxillofacial Radiology (Erzurum and Kayseri, Turkey). After finding an image compatible with SBD in the radiographies, multislice computed tomography (MSCT) on 7 subjects, and cone beam computed tomography (CBCT) in 6 subjects were performed to confirm the diagnosis.
Results: Of the 34,221 patients, 29 (0.08 %) had SBDs, of whom 4 were female (13.8%) and 25 were male (86.2 %). The age range of patients with SBD was 18 to 77 years (mean age**:** 49.6). SBD was found in the lingual molar region in 28 patients and in the lingual canine-premolar region of the mandible in one patient. The contour of the concavities on CT images (MSCT and CBCT) was detected. The MSCT revealed glandular tissue within the defects.
Conclusions: According to our results, SBD is an uncommon anomaly. Examination of MSCT images support the presence of aberrant submandibular glands within these mandibular defects, suggesting that pressure from submandibular gland tissue had caused the SBD, as has generally been thought. Both CBCT and MSCT can provide adequate support for the detection of SBDS. The CBCT could be suggested as the most suitable noninvasive diagnostic modality for this bony configuration of the mandible since has lower radiation exposure dose than MSCT.

Keywords: bone cyst, computer-assisted three-dimensional imaging, panoramic radiography, cone-beam computerized tomography, salivary glands

4. PREVALENCE OF DOUBLE PERMANENT TEETH IN A TURKISH POPULATION

Yasin Yasa, Ahmet Ercan Sekerci, Yildiray Sisman, Halil Sahman, Abdullah Ekizer
Turkey

Objective: The objective of the present study was to address the prevalence of double permanent teeth in a sample of Turkish patients. The frequency distributions of these conditions among different types of teeth were also examined.
Materials and methods: The present study was based on the clinical assessment examinations and panoramic / periapical radiographs of 8,229 patients. All of these patients with double teeth were examined clinically and

had radiographs and photographs taken at the time of examination. All data (age, sex and systemic disease or syndrome) were obtained from the patient files and analyzed for double teeth. The distribution of double teeth was investigated according to types and clinical positions.
Results: In this study the prevalence of double teeth in the permanent dentition in patients between 12 to 60 years was 0.29%. The maxillary incisors were the most commonly affected teeth, followed by the mandibular premolars.
Conclusions: Double teeth are uncommon conditions in Turkish population, but they are important dental anomalies that can affect any tooth in the mouth. Recognizing the condition will facilitate the endodontic, prosthodontic, periodontic, orthodontic, and surgical clinical management of such teeth.

Keywords: Double teeth, prevalence, permanent dentition

5. THE GASTROESOPHAGEAL REFLUX IN A PEDIATRIC GASTROENTROLOGY SERVICE

Lupu Vasile Valeriu, Burlea Anamaria, Burlea Marin, Lupu Andreea Daniela, Diaconescu Smaranda
Romania

Objectives: The study is investigating the gastroesophageal reflux disease in children using the gold standard method – the 24hour pHmetry. **Materials and methods:** 234 children underwent the 24 hours pHmetry between 2005 and 2010 in the V-th Clinic of Pediatrics, „St. Mary Children Emergency Hospital, Iasi. The patients presented were selected based on the typical or atypical reflux symptoms**:** regurgitations and/or recurrent vomiting (55), asthma and/or recurrent wheezing (85), chronic cough (44), recurrent respiratory infections (50). The 24 hours pHmetry results were interpreted with the Boix Ochoa score. **Results:** The reflux was present at 172 children (73.50%), 109 males and 63 females. For the age group 0-1 year, pHmetry was performed in 54 children, and the reflux was present in 41 cases (75.92%). Between 1-3 years old, out of 62 studied cases, 48 (77.42%) had reflux; between 4-7 years old, 49 children (71.01%) out of 69 had reflux; between 7-12 years old out of 31 cases, 22 (70.97%) had reflux, and over 12 years old, in 12 cases out of 18 studied, the reflux was demonstrated. Over 70% of the children in the study presented only atypical reflux symptoms, especially respiratory. These children received antireflux treatment with a very good control of the symptoms. **Conclusions:** The esophageal pHmetry has a decisive role in the diagnosis of gastro esophageal reflux especially for the children with atypical symptoms of reflux. A correct diagnosis through pHmetry allows a better therapeutical approach. The high percentage of positive pHmetry reflects a good selection based on clinical criteria mainly and on the poor response at the antiasthmatic therapy.
Keywords: gastroesophageal reflux, esophageal pH-metry, children

6. STOMATOLOGICAL IMPLICATIONS OF ADJUVANT THERAPY FOR BREAST CANCER

Diaconu C, Roxana Livadariu, Dogaru C, Norina Forna
Romania

Objectives: The aim of this study is to emphasize some acute stomatological disorders secondary to chemotherapy or adjuvant biophosponates therapy, used in treating breast cancer patients.
Materials and methods: This study included 1104 patients with breast cancer, addmited -by the same surgical team - in the 3rd Surgical Clinic, Iasi, from 2001 to 2010 for surgical treatment followed by oncological adjuvant treatment (chemotherapy and biophosponates-when needed).
Results: 22 patients presenting severe leukopenia after chemotherapy developed stomatological disorders (pulpitis, osteitis, pulpar gangrene). 2 patients with bone metastasis (spinal column and ribs), under treatment with biophosponates, developed osteonecrosis of the jaw. During stomatological interventions, 9 patients presented massive hemorrhage that needed agressive hemosthasis including association of hemostatic drugs and coagulation factors like Novoseven. 5 patients presented chronic hepatopathy with thrombocytopenia, and 4 had normal number of platelets. The 22 patients underwent specific dental treatment (pulpar chambers drainage, incision and drainage of purulent collecions from gingivo-labial sulcus) and antibiotherapy, with a favourable evolution.
Conclusions: Acute stomatological affections developed by patiens after chemotherapy for breast cancer is a fact to consider, in order to apply immediate and sustained measures. These specific measures should be corelated to the context of the dental disease evolution such as comorbidities of the patients, patients with anergy or with severe leukopenia).
The correct treatment of odontopathies before admission to adjuvant oncological therapy is a good profilactic method of all acute dental disorders related to oncological treatment.
After treating it with biphosponates, osteonecrosis of the jaw can be a real challenge for the medical practitioner.

Keywords: chemotherapy, breast cancer, dental disorders

7. ASSESSMENT OF PERIODONTAL STATUS OF TEETH BY DENTAL IMAGING

Cornelia Brezulianu, Monica Fira, Gabriela Ifteni
Romania

Introduction: This paper presents a method for assessing dental periodontal support through image processing in dental radiography.
Objectives: The method is an attempt to quantify the results of surgical or conservative treatments of periapical lesions.
Matherial and method: Image processing have been considered two types**:** the first consisted in selecting areas of interest and automatic detection of contours and the

second one to measure the bone density areas of interest compared to adjacent areas. Previously, preprocessing steps was performed by changing contrast, brightness, noise filtering operations and rescale to improve image quality. At this stage, the analysis focused on the periapical pathological processes. For those has been determined the area and bone density. The possibility of assessing these parameters, as well as comparative analysis while substraction method can provide valuable clues on diagnosis and treatment efficiency.

Keywords: Image processing, bone density, contours detection

8. INSULIN DEPENDENT DIABETES MELLITUS IMPACT AT THE ORAL LEVEL IN YOUNG AGES

Liliana Foia, Vasilica Toma, Florina Filip, Ancuta Goriuc, Irina Dumitriu, Didona Ungureanu
Romania

Introduction: The anatomic and functional particularities of child and teenager oral territories in general, and marginal periodontium in particular, the variety of clinical expression for their illness, and also the heterogeneity of etiology and the complexity of the pathogenic mechanisms make the diabetes mellitus – oral health relationship to keep being a subject with many unknowns, interesting both the researchers and also practitioners. Diabetes mellitus (DM) is one of the most widespread chronic diseases among children, impacting their lives, often by late diagnosis or during already installed ketoacidosis episodes. **Materials and methods:** In this view, oral status scan of a juvenile population with DM, through recording of some soluble chemical mediators within gingival crevicular fluid (GCF) and clinical index evaluation, in relation to patient age, duration and metabolic control of diabetes was intended, for contributing to real data collection of incidence of periodontal status disorders in juvenile diabetic patients. A group of 64 subjects, age 6-18 with different degrees of oral impairment, half with DM, were investigated for clinical evaluation (plaque index, clinical attachment loss, papillary bleeding index) and flow cytometry records of some inflammatory mediators**:** interleukin 1, IL-2, IL-10 and IFN-g, within serum and crevicular fluid. **Results:** Our study certifies that DM modulates GCF expression of several inflammatory cytokines in young subjects with impaired oral territories, indicating that microbiological overlapping involves considerable efforts of the body, resulting in significant elevation of some soluble mediators, the most prominent GCF levels being recorded for IFN-g. **Conclusions:** Considering the prevalence of the DM in young ages, there is a need for evaluation of inflammatory markers in the GCF, further recognition, manipulation and targeted modulation of these mediators being probably of great importance in oral health of young age diabetics.

Keywords: insulin dependent diabetes, cytokines, gingival fluid

9. DENTAL INFECTIONS ASSOCIATED WITH ALOPECIA AREATA. A CASE REPORT

Manola Kelmendi, Orian Hysi, Blerta Rumano Pjeshkazini
Albania

Introduction: The frequency and complications of chronic periapical procesess in children mainly in primary teeth are very important problems in pediatric dentistry.Evaluating carefully all the treatment methods of chronic periapical process,will lead to the prevention of many complications including alopecia areata.

Case report:

A.Z 9 years old (with mixed dentition) is presented for treatment after the visit and the recommendation from the dermatologist. There were three zones where hair had fallen and by the panoramex, there were noticed not treated cariese, accompanied by periodontal complications. According to the panoramex and to the age, there was created the plan of treatment. There were extracted the first temporary molars with periapical problems and there were cured the second temporary molars.

Conclusions: After the appropriate endodontic treatments, a month later there was noticed that those zones had started to be filled.

Keywords: dental infections, alopecia areata

10. SPONTAN HEALING OF UNTREATED HORIZONTAL ROOT FRACTURE

Eda Kermen, Didem Ozkal, Recep Orbak
Turkey

Introduction: Radicular fractures in permanent teeth are uncommen injuries among dental traumas, being only %5-7 of the cases. Following initial treatment of the root fracture, the pulp response can be divided into five groups**:** 1-fracture healing; 2-pulp necrosis; 3-root canal calsification or obliteration; 4-resorption; 5-fracture nonhealing. Generally, fractured roots are diagnosed shortly after the injury but occasionally they are identified at subsequent routine dental examinations. In the treatment of root fractures, it was recommended that the displaced coronal fragment should be repositioned and then splinted. However, it was reported that splinting may not influence healing in non-displaced teeth. In addition, there are cases of horizontal root fractures, which healed without any treatment.

Case Report

A 58 year old female came to the Department of Periodontology with the complaint of the mobility of maxillary left central incisor. The patient reported that she had kicked down the ladder 30 years ago and she had had any dental help about this. In the clinical examination; tooth was asympthomatic, there was no discoloration of the crown, no tenderness to percussion or palpation, no pockets or bleeding on probing. The tooth exhibited positive raction to electric pulp test. The mobility degrees was 3 according to the Miller Clasification.

Radiographically a distinct radiolucent line seperated fracture peaces and margins were rounded. Calsified tissue deposition was observed next to the fracture line of both the root segments. A fiber splint was applied to the palatinal sides of anterior insicors.
Conclusıon**:** Following the initial treatment the most desirable outcome after dental trauma is pulpal healing. In this case, healing was likely with interposition of connective tissue and the aim of the treatment was to decrease the complaint about the negative effects of the mobility.

Keywords: horizontal root fracture, spontan healing

11. CONSIDERAŢII CLINICO-BIOLOGICE ÎN ENDOCARDITA INFECŢIOASĂ

Loghin I., Ghibu L., Dorobăţ C.
Romania

Introduction: Infectious endocarditis is a microbial infection of endocardic surface, with a sudden or insidious onset, with damage-free heart, or by grafting on pre-existing valves lesions. Given the fact that infective endocarditis is an issue to be considered both as an adult and a young age, and more common factors are involved, we want a close approach in order to emphasize the frequent clinical and biological aspects, for a better knowledge and a quick prophylactic and therapeutic intervention.**Methods**: We performed a retrospective study using epidemiological, clinical, laboratory and therapeutic data, from 47 patients with infective endocarditis, that were hospitalized in Clinical Hospital of Infectious Diseases "Sf. Cuv. Parascheva" Iasi between 1st January 2007- 1st February 2011.
Results: Positive diagnosis of infective endocarditis was set according to Duke diagnostic criteria. The most affected age group was between 40-66 years. Inflammatory syndrome on admission revealed leukocytosis with neutrophils predominance to 42.5% of patients. In 87% of cases fever syndrome was present. The blood cultures were positive in 43% of cases. In 87.2% of patients, echocardiographic appearance was a major criterion for diagnosis of infective endocarditis. Associated pathology was most often present and had rebound on the evolution. Regarding the treatment, broad-spectrum antibiotics (penicillins, fluoroquinolones, aminoglycosides) was mostly a first choice. Cardiac complications occurred despite the treatment and revaluations. The prognosis was good, with favorable evolution of the cases, but 10% of patients required transfer to cardiology and cardiac surgery services.
Conclusions. Although positive developments have dominated the studied patients, endocarditis remains an entity with the most severe potential implications consecutive to heart failure, thromboembolism, valvular rupture, associated comorbidities.

Keywords: infective endocarditis, duke criteria, blood cultures, echocardiography, clinical evolution.

12. CORRELATIONS BETWEEN THE GENERAL PATHOLOGY AND THE CHANGES ON THE LEVEL OF THE ORAL CAVITY DETERMINED BY THE NON-INVASIVE PLETHYSMOGRAPHIC TECHNIQUE

Roxana Ionela Vasluianu, Ovidiu Stamatin, Consuela Norina Forna
Romania

Introduction: The morphological and functional changes occurring in the edentulous ridge may be correlated with the general status influenced by diabetes mellitus and hypertension. The vascular disease affects the oral cavity that further influences the choice for the best oral rehabilitation therapy. Among the complexity of the general diseases, hypertension and diabetes mellitus are considered diseases that affect the functional and morphological mechanisms on the level of the oral cavity.
Materials and methods: Out of 120 studied patients, 62 were men and 58 were women, ages between 50-75 years. The patients were divided into three groups according to the general status**:** the control group named L1, L2 patients with the general condition influenced by hypertension and L3 diabetes mellitus patients. In addition to the usual lab determinations, plethysmographic measurements were made on the level of the edentulous ridge and the thumb.
Results and discussions: Pulsed index changes were noticed on the level of the mucous support at patients who had general vascular changes and the results were conclusive and confirmed the necessity for some elements of predictability in choosing the traditional therapy versus the modern applied therapy.
Discussions: The determination of the vascular parameters on the level of the oral cavity is based on the registration of their vascular variations which is a non-invasive method for establishing the impairment degree of the blood supply and the results are as conclusive as in other lab tests used in dentistry.

Keywords: edentulous ridge, plethysmography, general pathology

13. CLINICO-STATISTIC STUDY OF YOUNG PEOPLES AESTHETIC LANDMARKS VARIATIONS

Andrei Măcriş, Gheorghe Mereţ
Romania

The purpose of the study consist in establishing the most important aesthetic landmarks variation and its interrelation on young romanian peoples.**Materials and methods:** to achive informations it was used a photo camera with feature specifications**:** 7,2 Mpx sensor, 3x optical zoom, self lens and self flash. Also it was setup on Macro function and it was used a limited 1-2,4 optical magnification. From 109 only 106 subjects were used (64 females and 42 males) with ages between 22 and 30 years. 3 cases was no passed because the photoes were

compromised. All photoes are the copies of original photoes (no edit software was used). Every subject was taken 8 photoes**:** 4 facial – frontal bite, frontal vertical innoclusion (relaxed), frontal smiling, lateral bite; 4 intraoral – frontal bite, frontal relaxed, canin bite right and left.The follow aesthetic landmarks were analyzed**:** *interincisiv line vs. median facial line; the central incisors visibility (relaxed position); vestibular incisor curve; the upper frontal teeth visibility (smiling); labial lateral space; cervical and ocluzal embrasures visibility; gingival zenith.* The data obtained was processed with Excel's (MS Office 2007) functions. **Conclusions:** i*nterincisiv line vs. median facial line* revealed an asimetry on right side – twice more on female cases rather males. *The landmark vestibular incisor curve* analyze revealed an equal percents of normal and reversed curve ditribution on males rather females – higher percent of normal curve. *The upper frontal teeth visibility (smiling)* in percentes was normal or higher then normal on females group, rather on males group with a lower visibility then normal.

Keywords: photoes, caesthetic, young peoples

14. PARENTERAL NUTRITION EFFECTS OVER SPEECH DEVELOPMENT

Stefan Lucian Burlea, Valeriu V. Lupu, Anamaria Burlea
Romania

The programs of total parenteral nutrition (TPN) or continuous delivery enteral nutrition (CDEN) will have a positive effect on health and a negative effect on speech occurrence and future development. Identifying any disturbance in child's development requires immediately taking adequate amelioration and multifactor support actions. Working as a mixed team (physicians, speech therapists, psychologists and physical therapists) at Helicomed Medical Clinic in Iasi, we developed a program which had as its main objectives: stating the effects of the parenteral/enteral nutrition program on future child development; preventing the occurrence of disturbances in child development through family counseling and early intervention; creating a system of services addressed to families with children fed intravenously/intestinally. The beneficiaries of this program were 40 children, born prematurely and tube fed, who often needed to be hospitalized in the gastroenterology or intensive care clinics of the „St. Mary" Children Emergency Hospital from Iasi. At the age of 36 to 42 months all children had low linguistic performance with a deviation from the normal level of 12 to 20 months. The recovery therapy programs for these children were focused on: speech therapy, psycho-motrical therapy, cognitive therapy, socialization and building up the personal and social autonomy. In conclusion the lack of oral nutrition causes the underdevelopment of the phono-articulator apparatus, the invasive medical techniques blocks or seriously damages speech functions (the most affected being those of communication and play) and finally the speech therapeutical intervention, through its corrective role, will prevent school failure and provide even training, education and integration chances.

Keywords: parenteral nutrition, speech, early intervention, multifactor support

15. A RARE CASE OF INFANTILE GRAVES' DISEASE

Smaranda Diaconescu, Anamaria Burlea, Valeriu Lupu, Glod M
Romania

Introduction: Hyperthyroidism is rare pediatric condition. Main signs and symptoms include the "classical triad" i.e. exophthalmia, goiter and tachycardia, to whom added increased appetite, weight loss, sweating, hyperactivity, heat intolerance, palpitations, fatigue and diarrhea. The diagnosis is made by T4, T3 and TSH measurements and also by imagistic studies (ultrasonography and technetium 99m or123 I scan). The treatment consists in administration of antithyroid drugs, destruction of the thyroid with radioactive iodine or reduction of the gland volume by subtotal thyroidectomy.
Case report: FC, a 12-year-old schoolgirl is guided by an endocrinologist to the IVth Surgical Clinic for a florid thyrotoxic syndrome exhibiting bilateral exophthalmia, lid lag, enlarged diffuse thyroid gland, sinusal tachycardia (100-110/minute), tremors, excessive sweating and poor weight gain. Clinical and laboratory tests established the diagnosis of primary thyrotoxicosis (Graves' disease). After a first-line treatment with antithyroid drugs the thyrotoxic syndrome relapsed because the lack of compliance and side effects of the medication (carbimazole). Laboratory tests showed increased FT4 (45 pmol/l), FT3 (15 pmol/l) and supressed TSH levels (below 0.1 mU/l) and ultrasonography objectified a huge, difuse, hypoechoic gland. A subtotal thyroidectomy was done, both lobes being resected except for a 1,5x0,5 cm patch of thyroid tissue close to the recurrent nerves. Surgery was particulary difficult because of the unusual large size of goiter (120 gm) and annoying bleeding. Postoperative course was troubled by a moderate thyroid crisis (fever, agitation, tachycardia) controlled whith medical therapy and the patient was discharged in the 5th postoperative day with complete recovery. The periodic yearly checkings attested her clinical and biological healing. Eight years latter the patient got married giving birth to a perfectly normal babygirl.
Conclusions: Pediatric Graves' disease conserve many unknows both in its pathogeny and treatment so futher studies are necessary.

Keywords: Graves' disese, children, surgery

16. CLASSIC AND MODERN THERAPIES IN TRIGEMINAL NEURALGIA

Pendefunda L.
Romania

This study is a short presentation of the results obtained by means of acupuncture associated with the antiepileptic levetiracetam in the treatment of the essential trigeminal neuralgia, diagnosed in the IInd Clinical Hospital of Neurology, within the "St. Trinity" Hospital of Iasi, in the last three years, on a lot of 21 patients for whom other treatment was proving to be insufficient or it was provoking unexpected dangerous side-effects. Given the fact that surgery is hardly an acceptable option for a patient suffering from essential trigeminal neuralgia, acupuncture offers a viable alternative. And the association of levetiracetam (Keppra) gives us new opportunities. There were very good results with remission of pain after 12-14 session of electro acupuncture and we associated doses of levetiracetam = 2x500mg/day (only in six cases it was necessary 2x1000mg/day).
It has been noticed that, when the patient's age is under 50, when the beginning of the suffering is recent and when the anatomic and physiologic paths of sensitivity are intact, the results of the traditional Chinese therapy are guaranteed with low doses of levetiracetam.

17. INVESTIGATING THE FREQUENCY AND CHARACTERISTICS OF BIFID MANDIBULAR CONDYLE USING COMPUTED TOMOGRAPHY

Halil Sahman
Turkey

Objective: To determine the frequency and characteristics of bifid mandibular condyle (BMC) using computed tomography (CT) evaluation.
Methods: A retrospective study was carried out using CT records of 550 patients referred to the Medical School of Erciyes University (Kayseri, Turkiye) between 2007 and 2010. CT images were evaluated for the presence and characteristics of the bifid mandibular condyle. BMC cases observed in 550 CT images were reviewed and analyzed in accordance with age, gender, side and angle of orientation. T-tests were used to compare BMC between left and right sides and between female and male patients.
Results: Of the 550 Patients, 328 (59.6%) were male and 222 (40.4%) were female. Among these records, 13 bifid mandibular condyles were observed in 10 (1.82%) patients (ages ranged from 23 to 62 years; mean age 37.9 ± 12.3). Five patients were female and five were male. Of these 10 patients, 7 (70%) had unilateral and 3 (30%) had bilateral BMCs. The frequency of BMC was found 1.52% in males and 2.25% in females. No statistically significant differences were found between either the right and left BMCs or female and male patients ($p > .05$).
Conclusions: To our knowledge, this is the first retrospective study investigating the frequency and characteristics of BMC using computed tomography. Although BMC is an uncommon anomaly, it may be a more frequent condition in the Turkish population. Advanced imaging techniques such as CT, cone beam CT (CBCT) and magnetic resonance (MR) are the gold standards at the point of examination of TMJ. Thus, panoramic and other conventional techniques are insufficient to determine bifid mandibular condyle and its orientation. Further studies about BMC and orientation of dublicated condylar heads should be carried out.

Keywords: Computed tomography, bifid condyle, double-headed condyle, orientation, frequency

18. BISPHOSPHONATE-RELATED OSTEONECROSIS OF THE JAWS: REPORT OF A CASE WITH BREAST CANCER AND A DENTAL CONCERN

Ahmet Ercan Sekerci, Murat Ulu, Yildiray Sisman, Osman A Etoz, Halil Sahman
Turkey

Introduction: Bisphosphonates are becoming increasingly important in the treatment of metabolic and oncological diseases involving the skeleton. In recent years, several cases of necrosis of the jaws associated with long-term use of bisphoshponates have been reported. The management of bisphosphonate-related osteonecrosis of the jaws (BRONJ) is emerging as a significant problem in the field of dentistry. In this article, we report a new case of patient with osteonecrosis induced by bisphosphonates.
Case Report: A female patient undergoing treatment with bisphosphonates for metastatic breast cancer was referred to the department of oral surgery due to nonhealing extraction sockets and intraoral exposed bone after dental extraction. The treatment modality of patient included antibiotic therapy, sequestrectomy, periodontal flap, and chlorhexidine mouthwashes. After an eleven-month follow-up period the affected area has healed totally.
Conclusions: In conclusion, bisphosphonates are the drugs of choice for many life-threatening diseases. It is important that health professionals, especially dentists, oncologists and oral surgeons be aware of the association between bisphosphonate treatment and delayed wound healing and osteonecrosis of the jaws. They should perform a comprehensive oral examination in patients before they begin any chemotherapy regimen. They should also follow existing guidelines for dental consultation for the prevention of oral complications of cancer therapy. Patients should be educated by specialists about the possible dental side effects of bisphosphonate therapy and take the necessary preventive measures to keep potential side effects to a minimum.

Keywords: Bisphosphonates, osteonecrosis, jaws, zoledronic acid, cancer, oral complications

19. GIANT NEGLECTED MULTICYSTIC AMELOBLASTOMA OF THE MANDIBLE: CASE REPORT

Ahmet Ercan Sekerci, Murat Ulu, Halil Sahman, Yildiray Sisman, Turgut Tursem Tokmak
Turkey

Introduction: Ameloblastoma, especially the multicystic/solid type, is the most clinically significant

odontogenic tumor that affects the bones of the maxillomandibular complex. It is a locally aggressive tumor of the jaws that, if neglected, can grow to an enormous size and cause severe facial disfigurement and functional impairment. In this report, we present the case of a giant ameloblastoma of the mandible with a 10-year history of enlarging mass that is supported with computed tomography (CT) scans and histopathological examination.

Case report: A 49-year old female patient was referred to the Department of Oral Diagnosis and Radiology with a giant mass in her mandible. Clinical examination revealed a firm swelling in the corpus of the mandible. Her panoramic radiograph showed a multilocular radiolucency involving the mandible from the left ramus to the right angle. The lesion had a significant vertical growth trend as apposed to horizontal. A biopsy was carried out through the oral cavity and the histological examination of hematoxylin and eosin stained sections revealed an ameloblastoma of the follicular type. CT scans showed that the large mass involved the entire mandible and multiple central areas of hypodensity were consistent with multicystic ameloblastoma. The patient was informed about the surgical procedure. However, she did not accept our treatment choice. Three months later, the patient came back for prosthetic rehabilitation. A control postoperative CT scan was performed at that time, confirming the consolidation of the graft. After more than one year of radiological follow-up there is no evidence of recurrence.A removable prosthesis was made allowing optimal prosthetic rehabilitation that offers a good quality of life.

Conclusions: Ameloblastoma is a challenging, destructive tumor that demands accurate diagnosis and careful surgical planning and execution, with long-term follow-up to identify recurrences.

Keywords: ameloblastoma, multicystic ameloblastoma, odontogenic tumors, mandible

POSTER PRESENTATIONS

Restorative Dentistry

1. STUDY REGARDING THE ENAMEL AND DENTIN MICROHARDNESS OF FLUOROTIC TEETH

Simona Stoleriu, Angela Ghiorghe, Antonia Moldovanu, Gianina Iovan
Romania

The purpose of the study has been to compare the microhardness of the enamel and dentin of the teeth having dental fluorosis with the microhardness of healthy teeth.
Materials and methods: A number of 32 extracted third molars were included were used in this study.The teeth were divided into 5 groups. The four study groups included teeth affected by dental fluorosis having TF (Thylstrup-Fejerskov) scores of 1,2,3 and 4 and the control group was represented by healthy teeth (TF 0). The teeth have been longitudinally sectioned and then have been fixed in chemically activated acrylic resin. The Vickers hardness measurements have been made with a microhardness testing device (Hanemann model, VEB Zeiss Jena) and the examination of the indentations being achieved with optical microscope. The hardness values have been calculated in the external, medial and internal third of the enamel, in enamel-dentin junction, in the external and medial third of the dentin. The data have been statistically analyzed using Mann-Whitney test.
Results: The mean values of enamel hardness decresed in the external third from 370 MPa (TF1) to 301 Mpa (TF 4), in medial third between 363 Mpa (TF 3) and 258 Mpa (TF 1), and in the internal third between 280 Mpa (TF 4) and 243 Mpa (TF 1). In dentin the mean microhardness values increased from 57 Mpa (TF 4) and 68 Mpa (TF 1) in the external third and between 58 Mpa (TF 3) and 74 Mpa (TF 1) in the medial third. Statistical significant differences were obtained when compare the hardness values in the internal third of the enamel of the teeth with TF 2, TF 3, and TF 4 with healthy teeth and in in the enamel-dentin junction of the teeth with TF 4 and healthy teeth.
Conclusions: There was a tendency of the enamel and dentin hardness to decrease with the increse of dental fluorosis degree.

Key words**:** microhardness, fluorosis, enamel, dentin

2. STUDY REGARDING THE SURFACE ROUGHNESS OF COMPOSITE RESINS AFTER USING DIFFERENT FINISHING SYSTEMS

Sorin Andrian, Claudiu Topoliceanu, Andrei Georgescu, Galina Pancu
Romania

The proper finishing and polishing of the composite resins could increase the long term esthetic results and clinical longevity of the restorations. A composite surface roughness might lead to bacterial biofilm accumulation, gingival inflammation, filling staining and a poor esthetic result.
The aim of the study was to compare the surface rougness of two composite resins having different mineral filer size when two polishing methods were used.
Materials and methods: Two composite resins were used in this study**:** Filtek Z250, (3M ESPE) and Charisma (Heraeus Kulzer). 18 cilindrical samples having 5mm in weight and 5mm in high were prepared from each material. The two control groups included 6 samples of each material which were not polished. The two study groups included 6 samples of Filtek Z250 and 6 samples of Charisma which were polished with flexible Sof- Lex discs and with PoGo polishing system. The samples were AFM analised to establish the surface roughness before and after polishing.
Results: The surface roughnesss was lower after polishing with PoGo system (the roughness mean root square was 1.39 for Charisma and 1.29 for Filtek Z250) when compare with Sof-Lex discs (the roughness mean root square was 1.51 for Charisma and 1.45 for Filtek Z250). No statistical significant difference in the two composite resins roughness were obtained after polishing using the two systems (Wicoxon statistical test).
Conclusions: The filler size did not influence the surface roughness after finishing the composite resins. Po-Go system leaded to a less rough surface when compare with SofLex discs.

Key words**:** composite resin, polishing, SofLex, PoGo system, AFM

3. AESTHETIC RESTORATION OF 2 MAXILLARY CENTRAL INCISORS BY INDIRECT

Tudose Andreea Dana, Biclesanu Cornelia, Blaj Bogdan
Romania

Introduction: In dentistry, when treating patients who require major cosmetic or functional changes, this means that knowing the final desired appearance and function of each patient's mouth is crucial to a successful outcome.
Reconstruction of the anterior segment by conventional metal-ceramic restorations does not correspond entirely aesthetic principles. Ceramics ideal version is full color by stability, transparency, biocompatibility, high strength, conservative dental structures.
Case report: Patient, male, aged 27 years presented to the office and asked the aesthetic restoration maxillary central incisors restored by ugly metal-ceramic crown on the tooth 11 and an anomaly in the form 21. A complete examination was performed that included radiographs,

photographs, and a review of the patient's periodontal condition. No pathologies were found to contraindicate esthetic enhancement. Occlusal analysis found no interferences or contributory factors that would necessitate the incorporation of functional and/ or occlusal rehabilitation.
Treatment was performed by indirect technique for closing the existing diastema, incisal edge elongation (21). The preliminary impression was poured study model that was made-up wax. After removal of the metal-ceramic crown on 11, was prepared properly for a full ceramic crown, at 12 was prepared for veneer necessary closure the diastema and elongation the incisal edge at tooth 21.
The precision used to create the gingival margin and interproximal contour will result in healthy gingival tissues, which should help to make the bonding procedures more predictable.
Conclusions: Therapeutic methods allow simultaneous rehabilitation of both the morphology of teeth, as well as the peculiarities of color. Using the reconstruction of the anterior segment in full ceramic eliminate unsightly appearance at gigival given classical metal components of metal-ceramic restorations, while giving teeth transparency and naturalness.

4. STUDY REGARDING LONGEVITY OF CERVICAL GLASSIONOMER CEMENTS AND COMPOMERS RESTORATIONS WITH AGE 18-24 MONTHS

Tirca Tiberiu, Topoliceanu Claudiu, Salceanu Mihaela, Lăcătuşu Ştefan
Romania

Aims: Study aimed to determine the clinical performance of cervical restorations made by conventional glassionomer cements, resine-modified glassionomer cements and compomers.
Materials and method: The study lot included a number of 60 direct restorations with age 18-24 months located on cervical third of buccal surfaces on frontal teeth and lateral dental group. The restorations were performed using Ketac Easy Mix (ESPE), Fuji IILC (GC) and Dyract (Dentsply). The study was performed on 32 patients using informed consent. The patients were included in medium cariogenic risk category and presented non-cariogenic and cariogenic cervical lesions. The assessment of functional status of the coronal restoration was performed using Ryge indices modified USPHS (US Public Health Service). The results were presented using descriptive statistic performed in Microsoft Excel.
Results and discussions: At an interval of 18-24 months, the retention rate was 95% Ketac Easy Mix and FujiIILC cervical restorations and 90% for Dyract cervical restorations. The Ryge indices modified USPHS for marginal integrity were as follows**:** A for 84,2% of FujiIILC cervical restorations, 74,2% of Ketac Easy Mix cervical restorations and 27% of Dyract cervical restorations; B for 10,3% of FujiIILC cervical restorations, 15,8% of Ketac Easy Mix cervical restaorations and 67% of Dyract cervical restorations; C for 5,5% of FujiIILC and Dyract cervical restorations. The Ryge indices modified USPHS for marginal coloration were as follows**:** A for 84,2% of FujiIILC cervical restorations, 74,2% of Ketac Easy Mix cervical restorations and 51,5% of Dyract cervical restorations; B for 10,3% of FujiIILC cervical restorations, 15,8% of Ketac Easy Mix cervical restaorations and 44% of Dyract cervical restorations; C for 5,5% of FujiIILC and Dyract cervical restorations. The Ryge indices modified USPHS for surface quality were as follows**:** A for 28% of FujiIILC cervical restorations and 78% of Dyract cervical restorations; B for 61% of FujiIILC cervical restorations and 22% of Dyract cervical restorations; C for 11% of FujiIILC and Dyract cervical restorations and 100% of Ketac Easy Mix cervical restorations. The Ryge indices modified USPHS for colour were as follows**:** A for 22% of FujiIILC cervical restorations and 84% of Dyract cervical restorations and C for 100% of Ketac EasyMix restorations and 11% of FujiIILC restorations. The restorations with indices C were associated with factors related as major reasons of replacement (secondary caries, loss of retention, hypersensibility, surface abrasion).
Conclusions: As a result of their clinical performance, bioadhesive materials can be highly recommended in the therapy of cervical dental lesions especially for patients with high cariogenic risk.

Keywords: glassionomer, compomers, cercical

5. EFFECTS OF GLASSY FILMS ON ROUGHNESS AND STREPTOCOCUS MUTANS ADHESION

Bulent Kesim, Ozlem Colgecen, Omer Kesmez, Secil Abay
Turkey

Introduction: Restoration of tooth surfaces with materials that inhibit colonization and proliferation of bacteria is important in the prosthetic treatment. Streptococcus mutans is the most cariogenic bacteria in the mouth and play a role as an early colonizer on formation of dental plaque. The adhesion of this bacterium to fixed partial denture materials can be responsible for secondary caries and periodontal disease around the restoration. Modification of dental alloy surfaces with surface coating materials may be beneficial for preventing these problems. Silicon dioxide based glassy thin films can be produced via sol gel coating process. In this study, nickel-chromium dental alloy specimens were coated with glassy and silver-doped glassy films. Effects on roughness and adhesion of Streptococcus mutans of these films were investigated.
Materials and methods: A total of 45 disc-shaped specimens were prepared from nickel-chromium alloy and metallurgically polished in order to obtain mirror finish. Specimens were randomly divided into three groups (n=15). One of the groups served as a control. The other groups were coated with glassy and %3 wt silver-doped glassy films consist of %85SiO2-%15Na2O-%5Li2O by using sol gel dip-coating technique. Roughnesses of specimens were measured by using profilometer. Amount of Streptococcus mutans (NCTC 10449) adhesion of each group evaluated by colony-forming unit counting method. Results were analyzed with ANOVA.

Results: The roughness of the nickel-chromium alloy did not change after coated with both glassy and silver doped glassy films (p>0.05). Amount of Streptococcus mutans adhesion to specimens were significantly reduced on the surfaces of coated groups. Silver doped glassy films exhibited significantly lower bacterial adhesion than the other groups (p<0.05).
Conclusions: Glassy thin films can be successfully coated on dental alloy by using sol gel coating technique. Both films may be a cheap and effective alternative for preventing dental plaque accumulation and secondary caries around restoration.

Keywords: Sol gel, Streptococcus mutans, Silver, Bacterial adhesion, Surface Roughness

6. EFFECTS OF AMALGAM OVERHANGS ON PERIODONTAL TISSUES

Cigdem Celik, Ayse Gulsahi, Bahar Fusun Oduncuoglu, Fusun Can, Muge Demirbilek, Sule Bulut, Mete Ungor
Turkey

Introduction: The aim of the present study was to evaluate the periodontal status, presence of A. actinomycetemcomitans, S. mutans and gingival inflammatory response associated with amalgam overhangs.
Materials and methods: Sixteen patients patients with Class II amalgam restorations with overhang on at least one premolar or molar tooth were considered for the study. Restorations were evaluated using radiographs and clinical exploration, also periodontal probing depth (PD), clinical attachment level (CAL), gingival and plaque indices were measured at the overhang dental surface (test) and at the same dental surface on the homologous tooth (control). Microbial samples were taken with sterile paper points and the presence of A. actinomycetemcomitans and S. mutans were detected using culture kits. The gingival crevicular fluid was collected with paper strips from the test and control surfaces and the concentration of interleukin-1- was quantified with enzyme-linked immunosorbent assays. Data were statistically analyzed (p<0.05).
Results: No differences were found between the test and control tooth surfaces regarding PD, CAL, gingival and plaque indices, the presence of bacterial colonization and levels of interleukin-1-.
Conclusions: Within the limitations of this study, there has been no difference detected among the periodontal status, presence of A. actinomycetemcomitans, S. mutans and gingival inflammatory response associated with amalgam overhangs. Further long-term in vivo research is necessary with a higher study population in order to compare these parameters.

Keywords: amalgam overhang, periodontal status

7. DIRECT PULP CAPPING IN CARIOUS EXPOSURES: HOW PREDICTABLE CAN ITS OUTCOME BE?

Darko Veljanovski

Introduction: The goal of our study was to analyze the correlation between the success rate of direct pulp capping in carious exposures and the type of technique used to place an immediate permanent restoration.
Matherial and methods**:** We did a retrospective study of 52 direct pulp cappings (DPC) performed in our dental practice within 12 months. The patients were followed up 24 months later, by checking for pain, tooth vitality, discoloration and radiographic status. The pulp necrosis in any phase was considered a failure. The age and sex distribution was**:** 29 males, 24 females, 20 over and 32 under the age of 35. The carious defects were spread as it follows**:** 12 cases in the upper,14 cases in the lower incisives, 10 cases in the upper and 16 cases in the lower transcanine teeth.
The DPC was done with calcium dioxide (Life, Kerr). We divided the patients into two groups**:**
Group 1**:** DPC followed by glass ionomer liner (Glassliner, WP Dental) and total etch technique.
Group 2**:** DPC followed by use of self etch technique (One Coat, Coltene Whaledent).
In all patients underwent permanent nanocomposite restorations (Synergy flow and Synergy, Coltene Whaledent).
Results: 22 patients developed pulp necrosis over a period of 2 – 24 months, with a success rate of DPC of 48 percent. The sex, age and class of restoration were statistically irrelevant as contributing factors to DPC failure. 14 of these patients were treated with glassionomer liner and a total etch technique, while the other 8 were treated with a self etch adhesive.
Conclusions: The DPC is a clinical procedure that remains controversial. If it meets the indications, its success rate is higher when combined with a self etch technique then when combined with glassionomer liner and total etch technique.

Keywords: direct pulp capping, pulp necrosis, self etch technique, glassionomer liner, total etch tecnique

8. THE DIRECT RESIN BONDING TECHNIQUE-A MORE CONSERVATIVE ALTERNATIVE

Blerina Osmani Hoxha, Dorjan Hysi, Koco Gjilo
Albania

Introduction: A healthy and attractive smile is valued in today's society so the presence of diastemas in the anterior aesthetic zone can be very displeasing to a person's smile and many patients are motivated to improve their appearance either by orthodontic treatment or restoratively with veneers, crowns or composite resin fillings. The need for treatment is mainly attributed to aesthetic and psychological reasons rather than functional ones. Technically there are two specific problems that need to be addressed when closing a maxillary midline diastema. Firstly avoiding a black

triangle at the gingival margin and secondly ensuring that the midline is correctly positioned. This paper reviews a direct bonding technique used to close a relatively large midline diastema.
Case report: A 26 year old patient presented to the office with a large diastema. It was his decision to have it closed. The pre-op view revealed good tissue health and an ideal color. Two treatment options were given to the patient**:**
1. Indirect porcelain veneers or crowns on all four incisors
2. Direct resin composite technique to close the midline diastema.
The goal of this treatment is mainly esthetic. The second option was chosen in collaboration with the patient. It was low cost and much more conservative since it required no tooth loss, only minimal preparation involving acid-etching technique.
Conclusions: Composite resin is an ideal material when restoring diastema closures. It is highly polishable, long lasting and mimics natural tooth structure. It is clear that no absolute rules can be given on whether crowns or fillings are indicated other than to say that in general the more conservative procedures are to be preferred.

Keywords: midline diastema, resin bonded composite, minimally invasive procedure

9. REATTACHMENT OF A CROWN-ROOT FRACTURED LATERAL INCISOR USING ORIGINAL TOOTH FRAGMENT (CASE REPORT)

Ayse Kocabasoglu, Bora Ozturk
Turkey

Introduction: Traumatized teeth occur mostly in the anterior groups, especially in the maxilla. Fractured teeth in childhood and youth are of great significance due to the pain, function loss, poor esthetic appearance, and psychological problems they yield. Current literature implies that the best technique for the restoration of traumatized teeth is using the original tooth fragment.
Case report: Our case, a 26-year-old male, had a subgingival crown-root fracture on the maxillary right permanent lateral incisor. He came to our clinic one week after the trauma. Throughout the week, he had preserved his tooth submerged in water. After the cauterization of the gingival tissue hyperplasia covering the root, root canal treatment was applied and a glass fiber post was cemented to the root canal using a dual-cure resin cement (Panavia F 2.0, Kuraray Medical Inc., Japan). Afterwards, the pulp champer of tooth-fragment was cleaned and checked for a perfect match with the root, before the tooth fragment was pasted to the root with resin cement. For aesthetic purposes, diastemas between the right, central, and lateral incisors were closed. In order to get a better resistance to expected pressures, right canine, lateral and central incisor were connected to each other with Ribbond (Ribbond Inc, Seattle, Wash), a bondable, reinforced polyethylene fiber material. This report includes the data of a 12 month follow-up.
Conclusions: Crown-root fracture treatment with reattachment is a better alternative in terms of periodontal situation, esthetic, and function than prosthetic and surgical procedures.

Keywords: Dental trauma; Crown-root fracture; Reattachment treatment

10. THE PREVALENCE OF NON-CARIOUS CERVICAL LESIONS IN ADOLESCENTS AND ADULTS

Aleksandra Zuza, Jelena Krunic, Smiljka Cicmil, Biljana Mijovic, Mirjana Vujaskovic
Serbia

Introduction: Non-carious cervical lesion (NCCL) is the loss of hard dental tissue on the neck of the tooth.These lesions are predominantly of multifactorial aetiology. Incidence and severity of NCCLs increase with patient age, which also suggests a fatigue component in their formation. The most frequent location is the vestibular side. Such lesions are becoming more frequent, causing several unpleasant symptoms and indicating more serious problems in the stomathognatic system. Knowledge of their prevalence in population assists in their solution.
The aim of this study was to determine the prevalence and severity of all forms NCCLs on vestibular surfaces of the tooth in a population in the municipality of Foca, Republic of Srpska.
Materials and methods: The study included 300 inhabitans of Foca, chosen at random sample, aged 15-75 (mean=38.2+19.3). The cervical third of vestibular surfaces of the teeth was clinically examined, and depth of detected NCCLs were measured by periodontal probe with a millimetre mark. The measurements then transferred into index of tooth wear (TWI).
Results: The most frequent index level was 1. The highest frequency of level 2 was found for the first lower premolars (10.3 % the left lower premolar, 9.7% the right lower premolar). Levels 3 and 4 were most frequent in the lower premolars (6-10.7%). With regard to the total number of all index levels from 1 to 4 the lower first premolars were most frequently affected (30.8%), and immediately after these the lower canines (27.7 %), and lower second premolars (23.7%). A similar percentage was found only for the lower incisors (22-23,6%) while all others were under 20% of frequency.
Conclusions: The teeth with most NCCL were the lower premolars, which also had the largest percentage of higher index levels, indicating greater severity of the lesions.

Keywords: tooth wear index, non-carious cervical leasions, epidemiology

11. THE EFFECT OF RESIN COMPOSITE APPLICATION AT DIFFERENT LIGHT INTENSITIES AND DURATION ON POLYMERIZATION SHRINKAGE

Mustafa Ersoy, Mübin Soyman

Turkey

Introduction: The purpose of the present study was to evaluate the polymerization shrinkage in resin composites applied at different light intensities and duration.
Material and Method: Four different types of resin composites (Z 250 3M- ESPE, St Paul USA, Grandio (VOCO, Germany), Suprem XT (3M- ESPE St Paul USA), Aelite (BİSCO,USA) were used in the study, 10 samples in each group. 12 µl spherical composites for each sample were light cured using 5 different light sources Group I (Fast cure (3000 mW/cm2 4 sec.), Group II (Ramp cure 3000 mW/cm2 Exp 16 sec.) Group III (Ramp cure 3000 mW/cm2 Slw 23 sec. Group IV (900 mW/cm2 20 sec.) and Group V (1500 mW/cm2 6 sec.) using Swiss Master Light (EMS Swiss). Polymerization shrinkages were measured using AcuVol (BISCO, USA) device Statistical analysis was performed using the One Way ANOVA and Tukey HSD test ($p<0.05$).
Results: According to One Way ANOVA test, Group I ($p <0.003$) and Group II ($p <0.009$) were significantly different (Table 1). According to Tukey HSD test, statistically significant difference was determined between Z250 and Grandio ($p <0.019$) and Aelite and Grandio ($p <0.016$) in Group I and between Suprem XT and Grandio ($p <0.007$) and Suprem XT and Aelite ($p <0.049$) in Group II (Table2). No statistically significant difference was edetected between Groups III, IV and V.
Conclusion: Due to the high intensity and low duration polymerization in Groups I and II, a lower shrinkage was observed in Groups I and II.

Keywords: polymerization shrinkage, light intensities

12. DIASTEMA CLOSURE WITH DIRECT RESIN COMPOSITE APPLICATION: CASE REPORT, 2 YEARS FOLLOW UP

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Turkey

Orofacial aesthetics makes a positive contribution to peer acceptance and can enchance self confidence. Term of diastema is used for an open space or gap between the two adjacent teeth in the dental row. The presence of diastema (spaces) between teeth is an aesthetic problem. Traditionally diastema has been treated by surgical, periodontal, orthodontic or prosthetic procedures. These procedures of correction can be unaffordable or can not be done in a short time. Diastema closure with composite resin restorations can be an alternative to above. Diastema which appears frequently at anterior teeth can be closed visually by addition of composite resin to the proximal surfaces of adjacent teeth.
Case report: 25 year old female has referred to the Restorative Department, Faculty of Dentistry, Ankara University. Clinical examination revealed a severe midline diastema between maxillary central incisors. Also there were diastemas between all the incisor teeth at both upper and lower jaw. There were also transpositions of maxillary incisors. Although a fixed prosthetic rehabilition could be made, due to the economic shortcomings of the patient,composite restorations are preferred. All of the diastemas are restored by composite resin. Particular attention was given to the counturing of the appical finish line of the restorations. Finishing and polishing of the restorations are made using rubber points, sandpaper disks, and sandpaper strips. The patient was informed to visit the clinic for monitoring every six months. The results were satisfactory after 2 years despite the patients bad oral hygien.

Keywords: composite, diastema

13. THE PREVALENCE OF PIGMENTATION LESIONS ON ORAL MUCOSA FROM AMALGAM FILLINGS

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Albanie

Introduction: Amalgam has been used for more than 150 years in restorative dentistry, having good results on its sustainability. Even though, in many countries of the world this material is not used routinely, in Albania amalgam still continues to be used. In oral mucosa (gingiva, mucous alveolar, vestibular membrane) appear pigmented lesions in gray blue in the vicinity of amalgam fillings or in spaces where teeth filled with amalgam are extracted.
Method: Under the examination was a population sample of 200 subjects whom had amalgam fillings for the duration of 5 years or more. Part of this study as complementary aspect there was presented a questionnaire in order to gather information on filling duration, amalgam preparation mode, and amalgam fillings removed without use of Rubber Dam, the presence of metallic taste in oral cavity, bruxism, and types of foods used by subjects as well.
Results: From the examination of the 200 subjects with different number of amalgam fillings, there were identified 12 of them with presence of the blue gray pigmentation in oral mucosa adjacent to these fillings. In addition, 4 other cases with pigmentation were identified in the spaces where previously were teeth with amalgam fillings which were extracted. Also, there were found 2 cases with oral mucosa pigmentation seen close by composite fillings, that was referred by the patient to have had amalgam fillings and refills were done without isolation of the oral cavity.
Conclusions: The pigmented lesions adjacent to amalgam fillings are displayed in 6% of subjects who had amalgam fillings present in the oral cavity, in 1% of subjects who have amalgam fillings removed without using the standard procedure, in 2% of patients who had extracted the teeth filled with amalgam. The predisposition of the pigmentation of the oral mucosa was evident more in subjects with bruxism, and consumption of corrosive food.

Keywords: amalgam fillings, pigmentation lesions, oral mucosa

14. INFLUENCE OF DIFFERENT POLISHING MATERIALS ON SURFACE ROUGHNESS OF A COMPOSITE RESIN MATERIAL

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Turkey

Aim**:** Finishing and polishing are important factors related to the clinical longevity of restorations. Different polishing systems are using to obtain smoothest restorative surface. The aim of this study was evaluate the influence of polishing techniques on the surface roughness of a universal nano-hybrid composite.
Materials and methods: By using aluminum molds (8 mm. diameter and 2 mm. height), 20-disc specimens were prepared from composite material as manufacturers instructions and by using mylar strips. Specimens randomly divided into four groups (n=10). First group served as control group had finished with Mylar strips and had no surface treatment, second group polished with Finishing Discs (Bisco Inc.,Schamburg, U.S.A), third group polished with Fortify Plus (Bisco Inc.,Schamburg, U.S.A), last group polished with Biscover LV (Bisco Inc.,Schamburg, U.S.A). Samples were tested with a profilometer (Perthometer M2, Germany) to obtain average surface roughness (Ra). **Results:** were evaluated using regression analysis.
Results: Statistical analysis revealed no difference between control and Biscover group (p >.05). Higher surface roughness was obtained with Finishing Discs and Fortify Plus group when compared with control (p<. 05).
Conclusions: The smoothest surface was obtained when the samples were treated with Biscover LV. So Biscover LV can used for polishing treatment. However; further studies are needed about this topic.

Keywords: polishing, composite, surface roughness

15. RESTORATION OF LARGE CERVICAL DENTAL LESIONS

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Romania

Introduction: Nowadays we rely almost entirely on the qualities of composite materials in restoring cervical lesions and that is why we have to master the correct techniques for applying them. But most of all to know the tricks which insure the morpho-aesthetic-functional restoration of the tooth.
Case report: A 36-year-old female presented with non-carious cervical lesions on teeth 13. A complete examination was performed that included radiographs and a review of the patient's periodontal condition. Occlusal analysis determined that no interferences or contributory factors would require functional and/or occlusal rehabilitation.
After the bevel preparations were made, a single-step, self-etching adhesive was placed. This adhesive was placed on the preparations for 20 seconds, lightly air-dried for 5 seconds, and light-cured for 10 seconds. It has been shown that single-step, self-etching adhesives have acceptable clinical retention rates to dentin surfaces when used in non-carious cervical lesions.
In order to restore the cervical lesions, 2 thick flat layers of composite resin are used. Two diagonal incisions are made in each layer. Before the polymerisation, they will be cut in four flat triangular shapes.
Conclusions: Through the use of this technique, the C Factor, which was worked out as 5 before the incisions, has been reduced to 0.5 when each triangular side adhered to a single wall and a fourth of the cavity floor. The proposed technique would also produce a more naturally looking restoration by inserting dentin and enamel increments of composite resin of a uniform thickness which closely resembles the arrangement of natural tooth structure.

Keywords: cervical lesions, C factor

16. THE EFFECT OF FOOD SIMULATING LIQUIDS ON SURFACE HARDNESS OF A SILORANE BASED COMPOSITE SAMPLES SUBJECTED TO VARIOUS FINISHING/POLISHING PROCEDURES

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Turkey

Composite resins are especially more prone to chemical alteration compared to inert metal or ceramic restorations in intraoral conditions, due to their organic matrix. Food simulating liquids (FSL's) are used as chemical agent in research. Although, the effect of FSL's on methacrylate-based composites have been widely investigated, the reports of the effects of FSL's on surface hardness of a silorane based composite resin are limited. In this study, the effect of food simulating liquids on surface hardness of a silorane based composite resin samples which are subjected to various finishing/polishing procedures was evaluated.
Materials and methods: Ninety-six cylindirical samples (2 mm height, 6 mm diameter) of a Silorane based composite resin (Filtek Silorane, 3M ESPE, USA) were prepared by using plexiglass molds against celluloid strips and stored in distilled water at 370C for 24 hours. The samples were divided into four main groups (n=24) and following finishing/polishing procedures were applied on top surfaces of the samples. Then, the samples of each main group were randomly divided into six subgroups (n=4). One of the subgroups was selected as baseline of each main group and Vickers hardness measurements were taken from top of each sample. Other subgroups were immersed to one of the five liquids (25 % ethanol, 50% ethanol, citric acid, heptane, distilled water) for 10 days 370C. After washing with tap water, they were subjected to the same hardness testing.
Results: Overall, the lowest surface hardness values were observed in celluloid matrix group (Group 1) and this group was found statistically different from the Group 2, 3 and 4 (p<0.001). Generally, there was no significant

difference among heptane, ethanol and citric acid in each test group.

Keywords: siloran, surface roughness, FSL

17. COLOR STABILITY OF SILORANE AND METHACRYLATE-BASED COMPOSITES AFTER WATER AGING

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Turkey

Objective: Tooth-colored dental resin composites are widely used restorative materials. They typically contain a mixture of various cross-linking dimethacrylate monomers, such as bis- GMA, bis-EMA and UDMA, glass and/or silica dioxide fillers and a photo-initiator system. New developments of dental resin composites are focused mainly on diminishing polymerization shrinkage and the related polymerization stress, together with improving biocompatibility, wear resistance, and optical as well as processing properties. With the aim of diminishing polymerization shrinkage, different high-molecular-weight matrix resin compositions have been employed. These include a cationic ring-opening hybrid monomer system that contains both siloxane and oxirane structural moieties, and such a system is used in dental composite materials commonly called siloranes. The silorane-based resin composites have low polymerization shrinkage and stress, good stability in aqueous environments and insolubility in biological fluid stimulants. The aim of this study was to test the influence of exposure to water on the color stability of two structurally different methacrylate-based and one silorane-based composites.
Materials and methods: Three different resin-based composite systems were selected (Filtek Silorane, Filtek Supreme Ultra,Voco Grandio) Ten disks were prepared from each product (Shade A2). The disks size was 1 mm in thickness and 15 mm in diameter. The samples were studied with colorimeter according to the CIE-Lab colour-space. After the initial measurements, the samples were stored for 30 days in a 60 °C water bath and then measured again under the same conditions. The color shifts were calculated using the formula**:** ΔE= (L1-L2)2+ (a1-a2)2+ (b1-b2)2
Results: If the standard of ΔE < 3,3 as clinically acceptable was taken into consideration, one of the three materials involved in the study showed an unacceptable color shift (Voco Grandio). The difference in the color stability between products was significant p<0,001.The differences may be due to the different nature of the matrix and could also be correlated with filler particles dimensions.

Keywords: silorane, composite, aging, color change

18. ANTIBACTERIAL PROPERTIES OF DENTAL LINING MATERIALS

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Turkey

Objectives: Restoration margins provide a potential pathway to leakage of cariogenic micro-organisms present in the normal human flora. Failure of fixed partial dentures is most frequently caused by caries. Thus, physically superior lining materials can play an important role in caries prevention. Furthermore, it would be advantageous if such materials possessed effective antibacterial properties. The aim of the present study was to determine the antibacterial activities of different types of dental lining materials and to compare antibacterial action after setting.
Materials and method: Agar diffusion testing was used to evaluate the antibacterial properties of seven types of dental lining materials [three types of glass ionomer cements (SDI, Riva self-cure, Dentsplay, ChemFil Molar, Shofu, Hi Dense), two types of resin composite (Shofu, Beautifil Flow and 3M, Filtek Supreme Ultra Flowable) two types of calcium hydroxide (Dentsply, Dycal and Ultradent, Ultra-Blend plus] on Streptococcus mutans bacteria. Streptococcus mutans is the most common caries-associated bacteria Antibacterial effect of either cement was evaluated by blindly measuring mean diameter (mm) of complete inhibition zones of bacterial growth around the discs. Statistical analysis was carried to determine the different activity significantly. Penicillin (10 mg discs) was used as a control.
Results: Results of the agar diffusion inhibition assays showed that all of the tested materials have antibacterial effects against Streptococcus mutans except Filtek Supreme Ultra Flowable.

Keywords: St. mutans, lining materials, antibacterial action, secondary caries, agar diffusion test

19. COMPARISON OF EFFECT OF DIFFERENT APF GELS ON SURFACE ROUGHNESS OF RESIN MATERIALS

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Turkey

Objectives: Application of acidulated phosphate fluoride (APF) gels has long been considered to cause deterioration of composite surfaces. The aims of this study were to demonstrate that if three different APF gels affected the composite surfaces.
Materials and methods: Acidulated phosphate fluoride (APF) agents (Topex 60 seconds, Topex Foam, Sultan Dental Products, U.S.A.) and 1 neutral fluoride agent (Topex Neutral, Sultan Dental Products, U.S.A) were analyzed. Subsequently, 120 specimens of 3 composites (Herculite, Kerr, Italy; Grandio, Voco, Cuxhaven, GERMANY and Supreme XT, 3M ESPE, U.S.A.) and a compomer (Dyract Extra, Dentsply, ENGLAND) with 30 specimens for each composite and compomer were randomly divided into 3 groups (n = 10) and treated with 3 fluoride gels. The roughness was measured before treatments and served as baseline. Fluoride gels were

applied on composite resin surfaces 4 times, 30 min each time and surface roughness was measured after treatments.
Results: Topex 60 Seconds and Topex Foam seem slightly increase surface roughness of different resin materials however according to regression analyze there is no statistical difference between surface roughness of resin materials treated with different APF gel applications (p >.05).
Conclusions: APF gels could change surface characteristics of resin restorations in oral environment at different levels. Because of that reason clinicians must have information about application time, methods and pH levels of APF gels and make their decision about usage of APF gels towards this knowledge. Further studies with different APF gels and their different effects are needed.

Keywords: APF gels, composite, surface roughness

20. DIRECT COMPOSITE VENEERS: CASE REPORT

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Romania

Background**:** Esthetic recovery of the vestibular face of upper teeth affected by dental erosion or caries.
Materials and methods: We have considered two clinical cases, one of an older man 63 years old suffering of dental abrasion duet o excessive teeth brushing and the second of a young woman of 27 with a cavity on her upper centrals with a vestibular hard tissues loss. Both cases required composite veneers that covered the vestibular surfaces of the teeth. The composite was polymerized in successive layers and the colors were placed accordingly to the teeth color.
Results: By using a color key and the layers successive polymerization we recovered the esthetic aspect of the affected teeth.
Conclusions: Direct composite veneers are an effective method to recover the vestibular surfaces affected by dental erosion or color change due to caries, involving a short period of time to do them, a low cost and a great physiognomic aspect.

Keywords: vestibular surfaces, dental erosion, direct composite veneers

21. DIET AND HYGIENE AS RISK FACTORS IN DENTAL CARIES

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Romania

Introduction: Tooth decay is a disease with multifactorial etiology**:** diet, oral hygiene, dental tissue susceptibility, cariogenic bacteria. In developed countries, dental decay is more prevalent due to increasing consumption of carbohydrates. Caries occur because of demineralization of enamel and dentine by organic acids formed by bacteria in dental plaque through the anaerobic metabolism of dietary sugars. Numerous studies have shown that sugar is the most important factor in dental caries development and its correlation with poor hygiene leads to irreversible damage of hard dental structures.
Case report: This paper presents the case of a young male patient, 23 years old, with a very high decay risk due to excessive consumption of carbohydrates, in the absence of proper oral hygiene. The patient failed to significantly change his diet and hygiene for a period of six months. All the teeth were affected on large surfaces. Since the lesions included almost the entire coronary volume reaching the coronary pulp chamber, the teeth could no longer be restored by simple fillings. In order to complete oral rehabilitation and to prevent early loss of teeth relative to the patient's age, we covered all the teeth with porcelain-fused-to-metal crowns.
Conclusions: Caries risk assessment is an important component of dental management. It should be take into account the number and extension of present caries, patient's diet and hygiene and the saliva characteristics. Lack of hygiene combined with a diet based mainly on carbohydrates leads to an increased number of caries. Caries complications affect the patient both in terms of chewing and psychological function. For patients who fail to make changes in diet and in the oral hygiene's habits, early loss of teeth can be prevented by covering those teeth with crowns.

Keywords: Keywords: caries risk, diet, oral hygiene, crown,endodontics.

22. THE RELATION OF DIET AND NUTRITION TO DENTAL CARIES

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Greece

Introduction: In developed countries, dental diseases account for 5% - 10% of total health care costs, exceeding the cost of cancer and osteoporosis Dental diseases are resulting from the action of bacteria on sugary foods, dental erosions, which is the loss of hard tooth tissue are caused by acid attack, Despite the marked overall decline in dental caries over the past 30 years the prevalence of dental caries remains unacceptably high in many developed countries.
Material and method: This research took place in the GENERAL HOSPITAL OF WEST ATHENS. We examined 2 groups of young patients, same age, sex and nutritional habits. We gave information's only to one group of them, about the disadvantages on the teeth of the diet which is high in n sugar levels, and the advantages of foods with high fluoride level.
Discussions: Worldwide studies on human populations show associations between sugar consumption and level of dental caries. A strong correlation exists between both the amount and frequency of sugar consumption and the development of caries even in countries that use

preventative measures such as water fluoridation. In addition to solid foods, consumption of sugary drinks also increases the risk of developing dental caries

Results: The group of the patients that where informed about the disadvantages on the teeth of the diet which is high in n sugar levels, and the advantages of foods with high fluoride level improved their oral hygiene since according to the questionary that they filled they improved their diet habits. It is very important the dentist to provoke the patients to restrict the frequency of consumption of foods and drinks that contain free sugars to a maximum of 4 times per day, to assure adequate exposure to fluoride to protect against caries and to avoid nutrient deficiencies that can contribute to dental diseases.

Keyword**:** preventive

23. THE EFFECT OF GASTRIC JUICE ON COLOR STABILITY OF LABORATORY-PROCESSED COMPOSITES

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Turkey

Introduction: Conditions such as gastroesophageal reflux disease can cause considerable damage to restorations in the mouth. The aim of this in vitro study is to determine the effect of gastric juice on the color stability of four different types of laboratory-processed composites which have different filler contents and polymerization types.

Materials and methods: For each of the composites, ten cylindrical specimens were fabricated in shade A3 (Vita Lumin shade guide) in 15×2 mm dimensions according to the manufacturer's recommendations. The standardized surfaces were obtained with grain 1500 abrasive paper after polymerization. One of the flat surfaces of specimens were stored in dry dark environment until test procedures. The color stability test was applied to the half polished flat surface of each specimen by colorimeter before subjecting them to the simulated gastric juice for 24 hours. Color measurements were made by a colorimeter according to the CIE L*a*b* color system. Then the same test were applied on the other half of the polished flat surface of the specimens. The mean values of these measurements were considered to be CIE L1*a1*b1* before being subjected to gastric juice and the mean values were CIE L2*a2*b2* after being subjected to gastric juice. They were used to obtain the ΔE values.

Results: The results of the one-way ANOVA indicate that gastric juice effects the color change ($p<0.001$). There were significant differences between the groups in the Post Hoc Tukey test ($p<0.001$). **Conclusions:** The color change might be caused by continued polymerization as well as the effect of water sorption. Various composite materials have different levels of water sorption depending on the type of monomer they are made of. Different monomers might also cause the materials to vary in color. The result of this study indicated that the gastric juice affected the color stability of laboratory-processed composites.

Keywords: gastric juice, laboratory-processed composites, color stability

24. EFFECTS OF A NEW CALCIUM-BASED AGENT – (PROARGIN) ON ENAMEL MICROHARDNESS AFTER BLEACHING

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Turkey

Aim: To determine the effects of Pro-argin application on the microhardness of bleached enamel and compare with those of fluoride and CPP-ACP (casein phosphopeptide-amorphous calcium phosphate) applications.

Materials and methods: Eight bovine incisors were cut into four sections. Enamel specimens were randomly assigned among four groups (n=8). The enamel surface was bleached using 38% hydrogen peroxide (HP) for three times, with 5-day intervals. The groups were treated as follows**:** Group I**:** Bleaching/no surface treatment (Control), Group II**:** Bleaching/Pro-Argin treatment, Group III**:** Bleaching/CPP-ACP treatment, Group IV**:** Bleaching/Acidulated phosphate fluoride (APF) treatment. Enamel specimens were stored in artificial saliva throughout the treatment. Baseline and post-treatment Vickers microhardness (VHN) values of enamel surfaces were measured for all groups. Statistical analysis was performed using Paired t-test, one-way ANOVA and post-hoc Tukey tests.

Results: After bleaching, hardness value of enamel surface were significantly reduced in control group ($p<0.05$) and the hardness value of control group was significantly lower than treatment groups (G2,G3 and G4) ($p<0.05$). However, there were no significantly difference among treatment groups ($p>0.05$).

Conclusions: Throughout bleaching treatment, Pro-Argin application may have a positive effect on enamel surface hardness such as CPP-ACP or APF.

Keywords: Bleaching, Proargin, Microhardness

25. EFFECT OF OXYGEN BARRIER ON PHYSICAL PROPERTIES OF RESIN COMPOSITES

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Turkey

Introduction: The oxygen diffusing from the atmosphere into curing resins is responsible for the inhibited surface layers commonly found on freshly polymerized resins. As the surface is exposed to the atmosphere, the surface of the resin tends to have a much lower conversion because of a continuous supply of oxygen from the air, and this results in a liquidlike, tacky, or mechanically weak formation, which is commonly called the oxygen-inhibited layer. The aim of this in vitro study was to evaluate the effect of oxygen barrier jel (DeOx, Ultradent Inc.) on

surface roughness and microhardness of different resin composites after polymerization.
Materials and methods: Six groups (n=10) of disc-shaped (8mmX2mm) specimens (N=240 samples) of a nanohybrid resin composite (Clearfil Majesty Posterior, Kuraray), resin modified glass ionomer (Dyract Extra, Dentsply), microhybrid resin composite (Tetric Ceram, Ivoclar Vivadent) and flowable resin composite (Clearfil Majesty Flow, Kuraray) were prepared. Each material's surface received the following treatment protocols. Group1**:** DeOx application (control); Group2**:** DeOx+disc finishing+polishing (DFP) (course+fine+ultrafine Sof-Lex Disc System (3M); Group3**:** DeOx+bur finishing+silicon polishing (BFSP); Group4**:** Cured against glass matrix+DFP; Group5**:** cured against glass matrix+BFSP; Group6**:** cured against glass matrix (control). The samples were kept in distilled water for 24 hours at room temperature. Surface roughness (Ra) was determined with a profilometer and Vickers microhardness was assessed with a 200 gr load. The data were analyzed statistically.
Results: All the subgroups exhibited statistically significant difference for all restorative materials. Microhardness**:** Group3 showed the best microhardness values whereas groups1&6 exhibited similar results for all the tested materials. Surface roughness**:** Groups1&6 exhibited the smoothest surfaces for all materials. The roughest surface was produced by group5 for Dyract, Tetric Ceram and Majesty flowable.
Conclusions: Oxygen barrier may be a good alternative for posterior restorations to eliminate oxygen inhibition layer like the mylar strips used in the anterior restorations.

Keywords: resin composites,oxygen barrier, microhardness, surface roughness

26. TIME DOMAIN, SPECTRAL DOMAIN AND SWEPT SOURCE OCT AS NONINVASIVE APPROACH ON CLASS II COMPOSITE RESIN FILLINGS

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Introduction: Optical coherence tomography (OCT) is an emerging non-contact imaging modality for micrometer scale sub-surface imaging of biological tissue. Cross sectional data along an axial line through the sample, called an A-scan, is acquired by axially scanning the position of the reference arm. Interference fringes are acquired at the photodiode detector when the round trip distance from the sample reflection matches that of the reference reflection. The magnitude of the observed fringes is proportional to the reflectivity of the scatterer. A two dimensional profile, or B-scan, is generated by scanning the interrogating beam laterally across the sample and acquiring an axial scan at each lateral location. Subtle differences in adjacent layers are visualized as differences in scattering intensities.
Materials and methods: 10 extracted teeth for orthodontic reasons were used as samples. Direct restorations were performed by composite resins. Time Domain, Spectral Domain and Swept Source OCT were used in order to investigate the samples.
Results: The spectral-domain approach offers a signal-to-noise-ratio advantage of around 20dB over Time-Domain OCT. That advantage translates into significantly faster imaging speeds. This high-speed imaging is essential when examining living subjects. In Time Domain OCT it could take a second to capture one frame of an image, so that required the use of image registration to remove motion artifacts. Spectral Domain system captures 20 frames per second, so it freezes out artefacts of motion on a frame-wise basis. It also increases the resolution of the image by minimizing low-level blurring. Swept Source OCT is a frequency domain OCT technique that measures the magnitude and time delay of reflected light in order to construct depth profiles (A-scans) in the sample being imaged. Adjacent A-scans are then taken and all the images combined to create a 3D image.
Conclusions: Using noninvasive optoelectronic methods in class II resin filled cavities must be done depending on what application is need it.

Keywords: Optical coherence tomography

27. THE EFFECT OF COMPOSITE RESIN TEMPERATURE ON INTRAPULPAL TEMPERATURE RISE

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Greece

Introduction: The aim of this study was to evaluate in vitro the intrapulpal temperature rise of tooth when restoring with either room temperature or pre-heated composite resin.
Materials and methods: The tip of a temperature sensor was positioned on the pulpal dentinal wall of the buccal side of an extracted, human bifurcated upper premolar, which had a class V preparation on the facial surface that left 1mm remaining dentin thickness on the axial wall. Metal tubes were inserted in the palatal and buccal root of the tooth, one for water inflow and the other for water outflow to simulate physiological circulation in the pulp chamber. The cavity was restored with a single 2mm thick increment of microhybrid composite Filtek Z250 (3M ESPE) either at room temperature or pre-heated to 50 or 60oC, using standard clinical procedures while continuously monitoring intrapulpal temperature. A conventional QTH light-curing unit was used for photopolymerization of the composite for 20sec with the end tip positioned 1mm from the composite surface. Temperature rise over baseline values were recorded during the restoration process**:** composite placement, contouring and immediately after light-curing. One-way ANOVA and Tukey-Kramer post hoc test ($p<0.05$) were used for statistical analysis.
Results: Significant differences were found in intrapulpal temperature when comparing pre-heated and room temperature composite treatment with respect to

baseline among the stages of the restoration process. Among composite temperatures, room temperature values were lower than those of 50 or 60oC, but the differences between temperatures were quite small (0.7 oC).
Conclusions: The results support the view that the greatest causative factor of intrapulpal temperature rise is attributed to application of the curing light unit, regardless of the composite temperature at placement.

Keywords: intrapulpal temperature rise, pre-heated composite resin, curing light unit

28. EFFECT OF TEMPERATURE ON FILM THICKNESS OF RESTORATIVE MATERIALS

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Greece

Introduction: The purpose of this study was to evaluate the film thickness of a variety of commercial composite resins, compomers and a giomer heated prior to light polymerization. The film thickness of these heated materials was also compared to those of flowable restorative materials at room temperature.
Materials and methods: Three conventional composite resins (Charisma, Filtek Silorane, Filtek Supreme XT), two compomers (Compoglass F, Dyract Extra), a giomer (Beautifil II) and four flowable restorative materials (Filtek Supreme Flow, Tetric Evo Flow, Wave and Compoglass Flow) were used. Specimen fabrication followed guidelines for ISO specification No 4049, 2006. Each restorative material (volume**:** 0.05mL) was pressed between two mylar-covered glass plates with a load of 15 Kg vertically to the plates for a period of 180sec. Then the materials were light cured and the thickness measured with a digital micrometer with an accuracy of 0.01mm. For specimens to be made at elevated temperature, the testing apparatus was placed into an oven, thermostatically controlled to 50oC or 60oC. Five tests were performed for each material at each of the three temperatures. Data were analyzed using one-way ANOVA and the Tukey-Kramer post hoc test ($p<0.05$).
Results: The thinnest films were formed by the group of flowable materials. Significant differences in room temperature thickness values were found among brands ($p<0.05$). All of the materials exhibited decreased film thickness at elevated temperature.
Conclusions: There were significant differences in film thickness among room temperature flowable materials, as well as among room temperature conventional materials. There was a significant decrease in film thickness for some of the conventional materials when heated to 50^{o}C or 60^{o}C compared to that of room temperature values.

Keywords: film thichness, flowable materials, heated materials

29. ADHESIVE CEMENTATION PROTOCOL OF ZIRCONIA RESTORATIONS

Ana Petre, Ruxandra Sfeatcu
Romania

Introduction: Continuous evolution of dental materials used today in dentistry has determined the development of some new and modern manufacturing and cementing techniques. Due to the relatively recent entry of zirconia and alumina based ceramics in Romanian dental practice, in the dental community persist a lack of information about adhesive cementation technique or more specifically about the special preparation of zirconia and alumina surface in order to use an adhesive cementation. Our aim is to acquaint practitioners with particular structure of zirconium and microscopic behavior of three materials that have contact during the adhesive cementation**:** crown, cement composite and dental tissue.
Materials and methods: In Romanian dental laboratories are currently used some of the many available brands of zirconia such**:** Lava (3M), Ceramill (Amann Girrbach), Zenotec (Wieland), Cercon®Zirconia (Dentsply), ZirCAD (Ivoclar Vivadent) and Procera Crown Zirconia (Nobel Biocare). We have studied the indications provided by each manufacturer regarding to preparation of the zirconium surface for the adhesive cementation.
Results: The chemical component of Zirconia is almost the same regardless of the manufacturer and the lack of vitreous filling restricts any usual ceramic etching followed by silanisation. From this point of view, there have been developed two methods to improve the bonding strength of composite materials to zirconia surfaces**:** silicatization followed by silanisation or conditioning the zirconia with a 10-methacryloxydecyl dihydrogen phosphate (MDP) monomer.
Conclusions: Adhesive cements have different composition and lack of knowledge concerning the properties of these materials and their interaction with zirconia/alumina may compromise long-term outcome.
Keywords: silicatisation, silanisation, zirconia, alumina, MDP, adhesive cement

30. THE EFFECT OF DIFFERENT PARAMETERS ON RESIN CEMENT MICROHARDNESS

Nurcan Ozakar Ilday
Turkey

Introduction: The aim of this study was to evaluate the effect of different veneering materials and light-curing units (LCUs) on the microhardness of dual-cured resin cement at two different curing times.
Materials and methods: Dual cure resin cement specimens (Clearfil SA Cement, 5 mm diameter, 1 mm thick) were pressed between two microscopic glass slides covered with transparent polystyrene matrix strips to remove excess material and then irradiated through a ceramic disc and a composite disc (A2 Esthet X HD, Dentsply, Caulk) by high-power LCUs as follows**:** conventional halogen light (QTH) for 20/40 s, light emitting diodes (LEDs) for 20/40s and xenon plasma arc

(PAC) for 3/6 s. The specimens in the control groups were cured under double strips (n=5). After dry storage in the dark (24 h/37 oC), specimens' Vickers microhardness numbers (VHNs) were recorded (50 gF load/15 s). Three indentations were performed on the bottom surface of each specimen. Data were analyzed using ANOVA and Duncan's test at a significance level of α=0.05.
Results: ANOVA revealed significant differences in microhardness between the curing units and veneering material and polymerization time ($p<0.05$). The LED curing unit source produced higher microhardness values compared to the QTH and PAC light sources ($p<0.05$). Both veneering materials, ceramic and composite resin, exhibited significantly lower microhardness values than those of the control group ($p<0.05$). Mean surface microhardness values of resin cement specimens increased with polymerization time ($p<0.05$).
Conclusions: LCU, curing time and veneering materials are important factors to be considered for adequate dual cure resin composite microhardness. High intensity light curing and longer curing times resulted in the highest microhardness values.

Keyw**:** resin cements, curing lights, veneering materials, microhardness

31. IN VITRO INVESTIGATION OF CALCIUM IONS PERMEABILITY THROUGH DENTIN SECTIONS

Violeta Dogandzhiyska, Slavcho Dimitrov, Vasil Kalchinov, Tzvetelina Guergieva
Bulgarie

Introduction: Preserving the dental pulp or part of it in a healthy state is the main purpose by direct and indirect pulp capping, particularly by teeth with incomplete root formation. The objectives of the treatment are to seal the pulp against bacterial penetration, to encourage the pulp to wall off the exposure site by initiating a dentine bridge and to maintain healthy pulp tissue. A wide range of materials have been suggested for pulp dressing. Calcium-content materials are indicate as one of the best materials of choice by direct and indirect pulp capping methods, because they presents biocompatibility, antibacterial activity and are able to induce mineralized barrier formation.
Materials and methods: The aim of this study was to investigate quantify of calcium ions passed by diffusion or iontophoresis through dentin sections with equal thickness and diameter. 40 intact, extracted human teeth were used. 40 dentin sections with thickness 1 mm were prepared. There were randomly divided into 4 groups/ n= 10 each/. All sections were treated as follows**:**
Group 1- 8.94 mg/ml Calcium gluconici, iontophoresis, 10 min
Group 2- 8.94 mg/ml Calcium gluconici, diffusion, 10 min
Group 3- Calcium hydrocxide/ Dycal, Ivory/, diffusion, 10 min
Group 4- MTA/ Angelus/, diffusion, 10 min
After that samples were submit to atomic absorption spectrometry to determine the contents of Ca- ions in solutions.
Results: In present study we determined highest quantify of Ca-ions passed trough dentin sections in group 1. Lower was the quantity in group 2 and group 3. In group 4 were fixed lowest values of passed Ca-ions.
Discussion**:** It can be concluded that permeability of calcium ions through dentin is dependent on material properties, **Introduction:** manner and dentin idiosyncrasy. All of investigated materials can be used successfully by pulp capping as source of calcium ions.

Keywords: Calcium ions, pulp capping, iontophoresis

32. SEM BONDING INTERFACE BETWEEN SELF ADHERING FLOWABLE COMPOSITES AND DENTIN

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Greece

Introduction: The aim of the study was to evaluate the characteristics of the dentin-bonding interface of two self-adhering flowable composites and compare it to a self-etch adhesive system.
Materials and methods: Thirty freshly extracted human teeth were sectioned longitudinal to expose superficial dentin and dentin substrates were polished with 600 grit SiC paper. The systems tested were**:** two self-adhering flowable composite resins, Fusio Liquid Dentin (Pentron Clinical) and Vertise Flow (Kerr) and a self-etch adhesive/flowable composite resin, S3 Bond/ Clearfil Majesty Flow (Kuraray). Manufacturers' instructions for applying of materials were strictly followed. A cylindrical teflon mould (3x2mm) was placed over the bonded area and filled with each of the tested materials. Ten specimens were prepared for each material and all specimens were stored in distilled water at 370 C for 24 hours. The bonded assembly was then cut perpendicular to the bonding interface using a low-speed diamond saw to expose the bonding interface. The SEM examinations were done on the cross sectional hybridized areas by J.S.M.-840 (JEOL,Tokyo, Japan) using specimens prepared by the following procedure. The exposed interface was polished successively with 600 grid SiC paper discs, 1200 grid SiC paper discs and immersed in 6 mol/L hydrochloric acid (HCL) for 30s. This was followed by immersion in 1% sodium hypochlorite (NaOCl) for either 10 or 30 min. Specimens were then rinsed with distilled water, stored in desiccators over night to dry and then were mounted on stubs, sputter-coated with carbon and examined by one evaluator under SEM, at 19 KV.
Results: SEMs showed relatively tight interfacial adaptation of self adhering flowable composites to dentin substrates. The self-etch adhesive/flowable composite resin system provides better interaction with dentin.
Conclusions: Self-adhering flowable composites resins are failing to penetrate into dentin structures comparing to flowable composite resin and its self-etch bonding agent.

Keywords: SEM, Solvent-free, Self-etch, Adhesives, Composite resins

33. SEM CHARACTERIZATION OF A SOLVENT FREE SELF-ETCH ADHESIVE TO DENTIN

Pantelis Kouros, Eugenia Koliniotou-Koumpia, Effimia Koumpia, Dimitrios Dionysopoulos
Greece

Introduction: The purpose of this study was to compare the bonding interface between a solvent free self-etch adhesive and dentin with adhesives containing different solvents, using scanning electron microscopy (SEM).
Materials and methods: The systems tested were: a solvent free self-etch adhesive Bond 1 SF/Artiste nano composite (Pentron Clinical), an ethanol self-etch adhesive Futurabond M/ Grandio SO (Voco), and a water-acetone-ethanol self-etch adhesive Optibond All in One/Herculite Ultra (Kerr). Thirty freshly extracted human teeth were sectioned longitudinal to expose superficial dentin and dentin substrates were polished with 600 grit SiC paper. Manufacturers' instructions for bonding were strictly followed. A cylindrical teflon mould (3x2mm) was placed over the bonded area and filled with each of the tested materials. Ten specimens were prepared for each material and all specimens were stored in distilled water at 370 C for 24 hours. The bonded assembly was then cut perpendicular to the bonding interface using a low-speed diamond saw to expose the bonding interface. The SEM examinations were done on the cross sectional hybridized areas by J.S.M.-840 (JEOL,Tokyo, Japan) using specimens prepared by the following procedure. The exposed interface was polished successively with 600 grid SiC paper discs, 1200 grid SiC paper discs and immersed in 6 mol/L hydrochloric acid (HCL) for 30s. This was followed by immersion in 1% sodium hypochlorite (NaOCl) for either 10 or 30 min. Specimens were then rinsed with distilled water, stored in desiccators over night to dry and then were mounted on stubs, sputter-coated with carbon and examined by one evaluator under SEM, at 19 KV.
Results: SEMs revealed significant differences between the three materials. The solvent free adhesive system fails to penetrate in-between dentin structures and to form sufficient hybrid layer.
Conclusions: Eliminating solvents from adhesives may result in ineffective bonding interface to dentin substrate.

Keywords: SEM, Solvent-free, Adhesives, Shear Bond Strength, Resins

34. MICRO-TENSILE BOND STRENGTH OF A GLASS-IONOMER BASED ADHESIVE TO ETHANOL-SATURATED DENTIN

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Turkey

Aim: This study determined the micro tensile bond strength (micro-TBS) of a glass-ionomer based adhesive (GIBA) to ethanol-saturated dentin.
Material & Method: Sixteen bovine incisors were divided into four groups according to surface conditioning methods and dentin bonding techniques (n=4). Group I: 37% phosphoric acid (PA) + Conventional wet bonding + Vitrabond, Group II: 37% PA Ethanol wet bonding + Vitrabond, Group III: polyacrilic acid conditioner + (PAA)Conventional wet bonding + Vitrabond and Group IV: +PAA + Ethanol wet bonding + Vitrabond. The GIBA was applied to the treated dentine surfaces followed by a composite inserted in increments and light cured. After 24h waited in water at 37°C, the bonded teeth were perpendicularly cut with a low-speed diamond saw to obtain sticks (1 mm2 cross-sectional dimensions) for micro-TBS testing. The results were analyzed by ANOVA followed by Tukey HSD test ($p<0.05$).
Results: The mean micro-TBS were Group I: 14,3±3,8, Group II: 11,1± 3,3, Group III: 15,2± 6,1, Group IV: 10,1± 5,3. Group IV showed different bond strengths significantly lower than those of all other groups.
Conclusions: The application of GIBA to ethanol-saturated dentin may results with decreasing of adhesive-dentin bond strength.

Keywords: TBS, glass ionomer, ethanol-wet bonding, adhesion, resin

35. THE EFFECT OF MOUTHRINSES ON SURFACE ROUGHNESS OF COMPOSITE RESINS

Mujdeci Arzu, Gokay Osman, Dinç Gül
Turkey

Introduction: It is known that the use of mouthrinses can affect some restorative materials, but there is no data about their influence on surface roughness of composite resins and newly developed silorane composite resin. Therefore, the purpose of this study was to evaluate the effect of mouthrinses on surface roughness of a silorane composite (Filtek Silorane) and a nanohybrid composite (Grandio) and a microfilled composite resin (Filtek SupremeXT).
Materials and methods: Thirty specimens of each composite resin were prepared (5 mm diameter x2 mm height) and stored in distilled water at 37 0C for 24 h. Then, they were randomly divided into 3 groups (n=10) and exposed to one of the mouthrinses (Listerine-containing alcohol, Colgate Plax -without alcohol or distilled water as control). All the samples were immersed daily for 28 days in 20 ml of the respective solution for 2 minutes twice a day (with a 12 h interval between exposures). The initial surface roughness and the subsequent changes in the surface roughness were then taken by profilometry at four times: baseline, 1, 7 and 28 days. The data were analyzed using three-way ANOVA and Bonferroni tests.
Results: Overall, mouthrinses did not affect the surface roughness of all composite resins used, this effect was similar to distilled water control. The two-way interaction between restorative materials and mouthrinses was not significant. Interaction between composite resins and time, and mouthrinses and time was significant. Surface

roughness of silorane composite resin did not change with time.
Conclusions: The use of mouthrinses did not affect surface roughness of three different composite resins tested.

Keywords: mouthrinse, surface roughness, composite resin

36. MICROLEAKAGE OF CLASS TWO COMPOSITE RESIN RESTORATION WITH DIFFERENT LINING MATERIALS

Janet Kirilova, Snejinka Topalova-Pirinska
Bulgria

The aim of this in vitro study was to determine the microleakage of Class II composite restorations with different lining materials- flowable composite resin and resin modified glass-ionomer cements.
Materials and method: Class II composite restorations were prepared on 56 caries –free extracted molars with the gingival margin located above CEJ and divided into four groups**:** 1 group were restored with Grandio flow/GF/ as liner and Grandio; 2 group were restored only with Grandio; 3 group with Fuji LC II/FLC/ as liner / 2mm of dentin at the gingival floor were without liner/ and Grandio; 4 group with Fuji LC II as liner /reach to dentin-enamel junction / and Grandio. The materials were used according to the manufacturer's directions. Grandio was used to restore cavities in all groups with self-etching technique. The speciments were subjected to 300 thermocycles between 5oC and 55oC. All tooth surfaces were sealed with nail-varnish within 1 mm from the restoration margins. The specimens were immersed in 0,5 % methyl-blue solutions for 6 hours at 37oC. The teeth were then sectioned mesiodistally and dye penetration was assessed according to the six-point scale at 20x magnification. Data was statistically analysed with Chi-square test / $p<0.05$/.
Results: Microleakage score reveals that, on the gingival floor the groups 1 and 2 /with GF and without liner/have significantly less microleakage than the groups 3 and 4 / with FLC as liner/. There are significant differences in the microleakage results between group 3 and 4.
Conclusions: In conclusion the thickness of the liners and what is the lining material are important in this study.When resin-modified glass-ionomer cement was used as a liner the best results were with a thinner layer of the material.

Keywords: classII restoration, glass-ionimer cements

37. THE EFFECT OF OFFICE BLEACHING PROCEDURE ON SURFACE HARDNESS OF RESIN COMPOSITES

Kivanc Yamanel, Ismail Baltacioglu, Yildirim Hakan Bagis
Turkey

Introduction: The aim of this in vitro study was to evaluate the effect of an high concentration hydrogen peroxide containing office bleaching agent on surface hardness of one hybrid and three different nanofill resin composites.
Materials and methods: Disc-shaped composite specimens (10 mm diameter and 2 mm thickness) were prepared using stainless steel mold. One hybrid (Charisma) and three different nanofill resin composites (Filtek Supreme XT, Clearfil Majesty Esthetic and Grandio) were placed into the holes of the mold and covered by transparent mylar strips at the top and bottom. The material was compressed at both ends by glass slides 1mm thick. The light source tips of the curing units were positioned directly over the mylar strip. Quartz tungsten halogen type light curing unit were used for polymerization of samples for 40 seconds from the top surface. After polishing with finishing disks, specimens were kept in 37 0C distilled water for 24 hours. Three hardness readings on the top of each specimen were taken with Vickers hardness tester. After these measurements, bleaching agent containing 37.5% hydrogen peroxide (Polaoffice +) was applied on the same surfaces and Vickers hardness measurements were performed again. Data were analyzed statistically.
Results: The results of this study revealed that surface hardness values of hybrid composite (Charisma) and a nanofill composite (Filtek Supreme XT) showed statistically significant decrease after bleaching agent application. The lowest hardness values were taken with hybrid composite. Our results showed that the hardness values of nanofill composites were higher than that of hybrid composite after bleaching. Ranking of hardness for composites was as follows**:** Grandio > Filtek Supreme XT > Clearfil Majesty Esthetic > Charisma.
Conclusions: Within the limitations of this in vitro study, it was concluded that the effects of an in-office tooth whitener on surface hardness were material dependent.

Keywords: Office bleaching, composite, surface hardness

38. THE EFFECT OF DIFFERENT PARAMETERS ON RESIN CEMENT MICROHARDNESS

Nurcan Ozakar Ilday
Turkey

Introduction: The aim of this study was to evaluate the effect of different veneering materials and light-curing units (LCUs) on the microhardness of dual-cured resin cement at two different curing times.
Materials and methods: Dual cure resin cement specimens (Clearfil SA Cement, 5 mm diameter, 1 mm thick) were pressed between two microscopic glass slides covered with transparent polystyrene matrix strips to remove excess material and then irradiated through a ceramic disc and a composite disc (A2 Esthet X HD, Dentsply, Caulk) by high-power LCUs as follows**:** conventional halogen light (QTH) for 20/40 s, light emitting diodes (LEDs) for 20/40s and xenon plasma arc (PAC) for 3/6 s. The specimens in the control groups were cured under double strips (n=5). After dry storage in the

dark (24 h/37 oC), specimens' Vickers microhardness numbers (VHNs) were recorded (50 gF load/15 s). Three indentations were performed on the bottom surface of each specimen. Data were analyzed using ANOVA and Duncan's test at a significance level of α=0.05.
Results: ANOVA revealed significant differences in microhardness between the curing units and veneering material and polymerization time ($p<0.05$). The LED curing unit source produced higher microhardness values compared to the QTH and PAC light sources ($p<0.05$). Both veneering materials, ceramic and composite resin, exhibited significantly lower microhardness values than those of the control group ($p<0.05$). Mean surface microhardness values of resin cement specimens increased with polymerization time ($p<0.05$).
Conclusions: LCU, curing time and veneering materials are important factors to be considered for adequate dual cure resin composite microhardness. High intensity light curing and longer curing times resulted in the highest microhardness values.

Keyw**:** resin cements, curing lights, veneering materials, microhardness

39. THE PREVALENCE OF PIGMENTATION LESIONS ON ORAL MUCOSA FROM AMALGAM FILLINGS

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Albania

Introduction: Amalgam has been used for more than 150 years in restorative dentistry, having good results on its sustainability. Even though, in many countries of the world this material is not used routinely, in Albania amalgam still continues to be used. In oral mucosa (gingiva, mucous alveolar, vestibular membrane) appear pigmented lesions in gray blue in the vicinity of amalgam fillings or in spaces where teeth filled with amalgam are extracted.
Method: Under the examination was a population sample of 200 subjects whom had amalgam fillings for the duration of 5 years or more. Part of this study as complementary aspect there was presented a questionnaire in order to gather information on filling duration, amalgam preparation mode, and amalgam fillings removed without use of Rubber Dam, the presence of metallic taste in oral cavity, bruxism, and types of foods used by subjects as well.
Results: From the examination of the 200 subjects with different number of amalgam fillings, there were identified 12 of them with presence of the blue gray pigmentation in oral mucosa adjacent to these fillings. In addition, 4 other cases with pigmentation were identified in the spaces where previously were teeth with amalgam fillings which were extracted. Also, there were found 2 cases with oral mucosa pigmentation seen close by composite fillings, that was referred by the patient to have had amalgam fillings and refills were done without isolation of the oral cavity.
Conclusions: The pigmented lesions adjacent to amalgam fillings are displayed in 6% of subjects who had amalgam fillings present in the oral cavity, in 1% of subjects who have amalgam fillings removed without using the standard procedure, in 2% of patients who had extracted the teeth filled with amalgam. The predisposition of the pigmentation of the oral mucosa was evident more in subjects with bruxism, and consumption of corrosive food.

Key words**:** amalgam restorations, pigmentation lesions

Endodontics

1. THE ROOT CANAL MORPHOLOGY OF THE ANTERIOR MANDIBULAR TEETH

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Romania

Introduction: A good knowledge of the anatomy of the root canal system is important for carrying out root canal treatment. The aim of this study is to assess the root canal morphology of mandibular incisors and canines and to compare it with clinical situations using a radiographic evaluation of the same group of teeth treated in private practice.
Materials and methods: We used for this study thirty-two extracted mandibular incisors and seven canines. The internal anatomy was studied using a color detector and a tooth-clearing technique. Eighty-four mandibular incisors and twenty-six canines underwent in vivo chemo-mechanical treatment using NiTi rotary instrumentation (ProTaper, Dentsply, Maillefer) and were filled using a ProTaper single cone, lateral condensation and warm vertical condensation.
Results: According to Vertucci's classification (1984), the majority of teeth had a root canal configuration type I - 52,5% for incisors and 58% for canines. In our study,in vivo, the mandibular incisors had higher percentages for type V - 30,1% and type IV - 7,75%, while in vitro we found in addition type II (1,7%), type III (6,7%) and type VII (0,86%) configuration. Canines also presented type V in 22,5% of the teeth, type IV in 16,12% and type II in 3,2%. We also found two roots in 6% of canines.
Conclusions: Even if the anterior mandibular teeth seem to be very easy to treat, the complexity of the internal morphology proved the contrary.
It is important to be familiar with variations in tooth anatomy and characteristic features since such knowledge can aid location and negotiation of canals, as well as their subsequent management.

Keywords: root canal configuration, mandibular incisors, mandibular canines

2. INCIDENCE OF THREE-ROOTED MAXILLARY FIRST PREMOLARS IN ENDODONTIC THERAPY

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Romania

Introduction: Human maxillary premolars demonstrate considerable anatomic variations of endodontic morphology and number of roots. Although these teeth are most commonly a bi-rooted, with one buccal and one palatal root, each with one canal at the apex, literature reports describe also the presence of first upper premolars with three independent roots, with an incidence ranged between 0% and 6% (Ingle 1965, Carns & Skidmore 1973, Vertucci & Gegauff 1979, Chaparro et al. 1999, Atieh 2008). Report of the cases**:** This is a series of cases reporting 3 three-rooted maxillary first premolars from three patients with irreversible pulpitis/pulpal necrosis. Preoperative radiographs were taken. A greater mesio-distal diameter of each tooth was observed, in association with complex root canal morphology, confirming that teeth were three-rooted. Root canal treatment was completed with GT rotary files.06 and.08 (Tulsa Dental, OK, USA) under the dental microscope (PicoOPMI, Carl Zeiss, Oberkochen, Germany), with copious irrigation with 5.25% NaOCl (Chloraxid 5.25%, Cerkamed, Poland). Gutta-percha master cones were cemented with AHPlus (Dentsply Maillefer, Baillagues, Switzerland) and compacted with SystemB (SybronEndo, Orange, CA, US). The canals were back-filled with thermoplasticized gutta-percha with Obtura II (Obtura Spartan, US) in the continuous wave of condensation technique (Buchanan, 1994).
Conclusions: This series of cases describes the presence of three independent roots in maxillary first premolars. Out of 100 premolars treated, 6 had three independent roots with three distinct root canals (6%), in accordance with literature data. They may appear or not on the preoperative radiographs. Root canal anatomy and its variations in human maxillary premolars are essential for endodontic therapy. During endodontic therapy, the clinician has to identify all the root canals, to clean, shape and fill them three dimensional, in order to achieve long term success.

Keywords: endodontic therapy, maxillary first premolar, root canal anatomy

3. EPIDEMIOLOGICAL STUDY REGARDING THE PREVALENCE OF APICAL PERIODONTITIS IN ROMANIAN POPULATION AND QUALITY OF ROOT FILLING TREATMENT

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Romania

Introduction: The epidemiological studies regarding prevalence of periapical pathology and quality of endodontic therapy present a major importance for the dentists related to that population. Aim. The objectives of this epidemiological study was**:** (a) to determine the prevalence of apical periodontitis and distribution of apical periodontitis forms in root-filled teeth and untreated teeth; (b) to assess the quality of coronal restoration and root filling treatment and to relate to the periapical status.
Materials and methods: The cross-sectional study included 247 randomly selected, 20-70 year-old patients (137 females, 110 males) with 5565 teeth to be assessed. All participants underwent a full-mouth radiographic survey (panoramic radiograph). Every panoramic radiograph from one case were interpreted by two endodontists under standardised viewing conditions. Both examiners recorded the data as follows**:** number of teeth; radicular status; periapical status (PAI ≥ 2). The quality of the root canal fillings was assessed using radiographic exam and classified in four classes as follows**:** adequate density, poor density, adequate length, short root filling, long root filling.
Results: and discussions. Apical periodontitis in one or several teeth was found in 124 subjects (50,22%). Teeth with adequate radicular treatments present 17,6% AP, teeth with short root fillings present 80,9% AP, teeth with poor density root fillings present 63,1% AP and teeth with long root fillings present 90,6% AP.
Conclusions: The prevalence of apical periodontitis in root-filled and non-root filled teeth is high (50.22%) in romanian population. Romanian adult population presents a high frequency of endodontic treatments (72.4%). The quality of root fillings can influence significantly the success of conservative endodontic therapy

Keywords: epidemiological, prevalence, apical periodontitis, root filling

4. INVESTIGATION OF MICROLEAKAGE OF ROOT CANALS TREATED WITH ER: YAG LASER

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Bulgarie

Introduction: For the successful endodontic treatment is important hermetic obturation of root canals. There are a different materials and methods for this purpose. The material most commonly used for obturation is gutta-percha. In recent years, more often is used Resilon-thermoplastic synthetic polymer-based root canal filling material. This study aims to compare the microleakage after treatment of root canal surface with 2,5% of NaOCL and 17% of EDTA and irradiation with Er**:** YAG Laser.
Materials and methods: Twenty four freshly extracted human teeth are used in this study. With the help of diamond disk with air water spray coolant teeth are cut at fifteen mm from the apex. The root canals are prepared using K3-files nickel-titanium instruments. The irrigants used are 2,5 % of sodium hypochlorite and 17% of EDTA. In the present study, the teeth are randomly devided into four groups of five specimens each as follow**:** 1) The specimens are treated with 2,5% of NaOCL and 17% of EDTA and obturated with Gutta-percha; 2) The specimens are treated with 2,5% of NaOCL and 17% of EDTA and

obturated with Resilon; 3) The specimens are treated with 2,5% of NaOCL and 17% of EDTA irradiated with Er: YAG Laser and obturated with Gutta-percha; 4) The specimens are treated with 2,5% of NaOCL and 17% of EDTA irradiated with Er: YAG Laser and obturated with Gutta-percha Resilon.
Results: The presented study shows that laser-treated teeth had a minimal microleakage compared with other groups.

Keywords: microleakage, Er: YAG Laser,root canal obturation

5. INVESTIGATION OF PHOTODYNAMIC EFFECT OF PHTALOCYANINES AGAINST ENDODONTIC MICROORGANISMS

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Bulgarie

Introduction: Photodynamic therapy (PDT) is a medical treatment that utilizes light to activate a photosensitizing agent (photosensitizer) in the presence of oxygen. The exposure of the photosensitizer to light results in the formation of singlet oxygen and free radicals, causing localized photodamage and cell death. PDT involves three components: light, a photosensitizer, and oxygen. The development of resistance to PAD appears to be unlikely, since, in microbial cells, singlet oxygen and free radicals interact with several cell structures and different metabolic pathways. The aim of this study was to evaluate the effects of the laser radiation (630 nm) associated with Zn- and Si-phtalocyanines photosensitizers on viability of problematic gram-positive and gram-negative bacteria in infected root canals.
Materials and methods: In this study were used 50 freshly extracted human teeth. With the help of diamond disk with air water spray coolant teeth are cut at fifteen mm from the apex. The root canals are prepared using K3-files nickel-titanium instruments. The irrigants used are 2,5 % of sodium hypochlorite and 17% of EDTA., inoculated with 108 CFU/ml pure microbial culture in Brain heart infusion broth of Staphylococcus aureus, Enteroccocus faecalis or Pseudomonas aeruginosa and incubated 24 hours at 35ºC. After the incubation of the teeth with bacteria were counted CFU/ml before and after treatment with PDT,with light parameters 100mW at 630nm wave length.
Results: The photodynamic activity of the Zn- and Si-phtalocyanines was detected after PDT with about 3 log reduction of the biofilm of Staphylococcus aureus or Enteroccocus faecalis, but missing activity of the PDT with those photosensitizers to Pseudomonas aeruginosa was established. The most active of photosensitizers is Zn-phtalocyanine.

Keywords: photodynamic therapy, endodontics, antimicrobial effect

6. ASPECTS OF ENDODONTIC TREATMENT IN CHRONIC APICAL PERIODONTITIS DURING PREGNANCY

Irina-Maria Gheorghiu, Magdalena Mironiuc - Cureu, Ruxandra Margarit, Alexandru A. Iliescu
Romania

Introduction: The purpose of this study was to examine the clinical response and evolution of the conservative endodontic treatment in chronic apical periodontitis in pregnant women.
Materials and **Materials and methods:** Ninety five teeth with necrotic pulps and asymptomatic chronic apical periodontitis, verified radiographically, were treated, in pregnant women. Pregnancy is a special condition, and the aspects needed to be taken into consideration are: minimize the incidence of inter-appointment flare-ups, the use of endodontic products with long term effect and the role of the radiological evaluation. The investigated endodontic are: Cresophene (Septodont), Endotine (Septodont), Grinazole (Septodont), Tempophore (Septodont) si Calxyl (OCO Praparate). After the biomechanical preparation of the root canals, and sodium hypochlorite irrigation solution, different endodontic products have been applied as dressings. The clinical aspects were meticulosy recorded on each visit, during the whole treatment period. Data recorded at every visit were: symptoms, clinical signs, the aspect of the temporary or final restauration.
Results: The selection of antimicrobial endodontic dressings is very important because any flare-up requires a systemic antibiotic with possible side effects on foetus. We recommend: Grinazole, Septodont and Endotine (Septodont). The results indicate that calcium hydroxide is a good intracanal medication because of its bactericidal properties and it also reduces the incidence of interappointment flare-ups. On long term, calcium hydroxide is very usefull as a temporary dressing to treat a variety of endodontic problems related to teeth with non-vital pulps, especially in cases where the induction of calcification response is necessary.
Conclusions: The conservative endodontic treatment in chronic apical periodontitis during pregnancy is always special, with great care in avoiding inter-appointment flare-ups by using gentle endodontic products in association with calcium hydroxide. The radiological evaluation should be taken with caution, only in special cases.

Keyw: chronic apical periodontitis; pregnancy; endodontic medication treatment; antiseptics; clinical response; flare up; risk factors; mutagenic effects.

7. PULP CAPPING- AN EXPERIMENTAL STUDY IN RAT MOLARS

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Romania

Introduction: The purpose of this study is to investigate

pulpal response and hard tissue formation following direct pulp capping with three different materials. The pulp capping materials applied to the teeth are calcium hydroxide, human recombinant insulin-like growth factor and collagen.

Materials and methods: Fifteen male two-month old Wistar rats were the experimental animals used in this study. These rats were conducted under ketamine/xylazine anaesthesia. The dosage that was used for this aim was 100mg/kg ketamine and 5mg/kg xylazine. Before preparing the cavities, all the teeth were carefully cleaned and disinfected with 3% hydrogen peroxide. Then cavity preparations and pulpal exposures were made on their first upper molars. These molars were divided into three groups, according to the pulp capping material that was used for sealing. RhIGF-1 was applied to the left upper rat molar and collagen was its scaffold and then pure collagen- as a control was applied to the right first molar. Calcium hydroxide was applied to both left and right rat molars. After the pulp capping procedure all the teeth were filled with glass ionomer cement. 8, 15 and 30 days after the procedures rats were euthanized and pulpal tissue fixed. The treated molars were decalcified and processed for histomorphological analysis of the pulp response. For the fixation was used 10% formaldehyde. For the staining of the fixed tissue was applied hematoxylin-eosin dye.

Results: Pulp reaction was demonstrated in all speciments treated with tested materials. Some differences in pulpal response and hard tissue formation (reparative dentinogenesis) were detected.

Conclusions: The microscopic control demonstrated some mild inflammatory effects for the investigated materials. The materials enhanced the pulpal response and stimulated pulp healing including hard tissue formation. The investigated materials lead to some differences in the pulpal response.

Keywords: pulp capping, rhIGF-I, collagen, calcium hydroxide, rat molars

8. QUANTITATIVE AND QUALITATIVE ASSESSMENT OF ENDODONTIC TREATMENT AND SUBSEQUENT RESTORATIONS

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Romania

Introduction: Purpose of this work was to evaluate the prevalence of endodontic treatment and the methods of restoring endodontic treated teeth.

Materials and methods: From October 1st 2010 until March 1st 2011 a study was performed on the complete mouth radiological surveys of registered patients in the Oral Rehabilitation Department of the Carol Davila University Bucharest. We looked for the number of endodontic treated teeth, the quality of root canal fillings, the types and the correctitude of the methods used to restore those teeth. A SPSS package was used for data statistical analysis.

Results: A number of 76 patients between 15 and 71 years of ages were identified; average 44 years of age (SD=17.63). Among them 62 showed evidence of endodontic treatment, each patient having between 1 to 18 affected teeth, with an average of 4.62 (SD=3.4). The endodontic treatment was appreciated as correct in 76% of the teeth. Regarding the methods of restoration we determined**:** 73.1% of the patients (n=38) presented at least one cast post and core; 36,5% of the patients (n=19) presented one metalic prefabricated threaded post; 11.5% of the patients (n=6) presented at least one nonmetalic prefabricated postintracoronal 12, 8% of the endodontic treated teeth presented a coronal restoration; 11,7% of the endodontic treated teeth were not restored. No semnificative differences were registered between man and women regarding the prevalence of endodontic treatment and type of restoration.

Conclusions: A high frequency of endodontic treatments was registered. Among the methods of restoration used, cast posts and cores were the most prevalent, followed by threaded posts. As the age progresses more teeth have been treated endodontically (Spearman test, $r=0.489$, $p<0.001$) and the more cast posts and cores can be found ($r=0.450$, $p<0.001$).

Keywords: root canal filling, complete mouth survey, posts, statistic analysis

9. THE TREATMENT OF FURCALLY PERFORATED MAXILLARY FIRST MOLAR WITH MTA AS A RESULT OF EXCESSIVE CAVITY PREPARATION

Dursun Ali Sirin, Tarik Toker
Turkey

Introduction: Furcal perforation is an unfortunate iatrogenic incident that can occur during root canal therapy or post preparation of multirooted teeth. Studies have shown that the materials currently used to repair these iatrogenic accidents are inadequate. The poor prognosis of furcation perforations is probably due to bacterial leakage or lack of biocompatibility of repair materials. On the basis of the recent physical and biologic property studies of the newly introduced mineral trioxide aggregate, this material may be suitable for closing the communication between the pulp chamber and the underlying periodontal tissues.

Case report: A 30 year-old male patient was referred to our clinic with the complaint of mild spontaneous pain on his left maxillary first molar which was initially performed root canal treatment in another clinic 2 days ago. There was moderately pain upon percussion test of the tooth and no other visible clinical findings.The radiograph taken on the implicated tooth revealed no clue about the possible cause of pain.The tooth was then isolated with rubber-dam, temporary filling was completely removed and 3 number #15 K-type files were attempted to place in each root canals.Upon examining another radiograph taken with this position,it was diagnosed that there was perforation site between the basis of the pulp chamber

and alveolar bone and one of the files was placed through the iatrogenic perforation site. We concluded that the tooth was possibly perforated inadvertently during the previous access cavity preparation. The perforation site was then irrigated and sealed with mineral trioxide aggregate (MTA) material and the original root canals were re-detected,irrigated,shaped and filled with gutta-percha lateral compaction technique.
Conclusions: Whether it may be the severity of disease or an iatrogenic error, furcation perforations can be tackled efficiently with the advent of newer materials like MTA. Following proper protocols in their use, strict isolation and sterilization would lead us to the next generation of the specialty practice where little seems to be impossible.

Keywords: MTA, furcal perforation, excessive cavity preparation

10. ENDODONTIC AND AESTHETIC TREATMENT OF TRAUMATIZED MAXILLARY INCISOR TEETH

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Turkey

Introduction: Dental traumas are very common in children and adolescents and when permanent teeth are involved, it is usually a challenge to save them. In clinical practice, a multidisciplinary team plays an essential role in obtaining excellent results. During early childhood, dental traumas occur frequently, as in this stage, children take their fist steps, but they do not have sufficient motor coordination to avoid possible falls. When they grow up, sports practicing, games, fights and various kind of accidents predispose children to traumatic injuries. If trauma is severe, complicated dental fractures may be seen. Complicated crown fractures involve enamel, dentine and the pulp. The incidence of complicated crown fractures ranges from 2% to 13% of all dental injuries and the most commonly involved tooth is the maxillary central incisors. Various treatment modalities are available depending upon the clinical, physiological and radiographic status of the involved tooth.
Case report: A 18 year-old male patient was referred to our clinic by demanding to complete his unfinished endodontic treatment.He stated that he had suffered a severe car accident about 10 months before and immediately been admitted to another clinic.He said that his head had bumped into the steering wheel of the car during accident and 4 upper and 2 lower incisors had been fractured. His lower incisors were extracted due to severe luxation and four upper incisors were commenced endodontic treatment but after a pair of root canal dressings,he couldnt have found a chance to complete treatment.The patient's intra-oral examination revealed multiple crown fractures of 4 maxillary anterior incisors and no remaining soft tissue defects. Fracture lines of 4 teeth were about the cervical level. Lower incisors were extracted. Intra-oral radiographic examination revealed no periapical radiolucency around root tips. Fractured maxillary anterior incisors were then continued to root canal treatment. The root canals were isolated with rubber dam, cleaned, shaped and filled with gutta-percha lateral compaction system. After root canal treatments were completed,the roots were prepared for establishment of translucent fiber post application. And the restoration of teeth were completed with esthetic crowns made up with nanofil composite system.
Conclusions: Anterior tooth trauma, commonly found in permanent teeth, can cause psychological distress, in fact, in all ages. It is important to retain the natural tooth to maintain space and also to maintain the alveolar bone height, so that later long-term prosthetic replacement, if required, are feasible. There are various treatment guidelines and options available for management of complicated crown fractures. Thorough knowledge of techniques, their indications, risks/benefits, research based evidence as well as expectation of the patients and their parents should be kept in mind while choosing a treatment plan. Such cases require regular and long-term follow-up so that complications, if any, can be treated early.

Keywords: incisor tooth trauma, fiber post, nanofil composite crown

11. COMPARATIVE STUDY OF APICALLY EXTRUDED DEBRIS AND IRRIGANT AFTER TWO ROTARY SYSTEMS

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Bulgarie

Introduction: Apical extrusion of debris and irrigant during cleaning and shaping of the root canal is one of the common problems encountered by an endodontist.
The aim of this in vitro study was to establish and compare the amount of debris and irrigant extruded apically after canal preparation with two rotary systems (K3 and RaCe).
Materials and methods: Two groups of 24 extracted teeth with single canals were used. In group 1 (12 teeth) the root canals were instrumented using nickel-titanium K3 rotary instruments and crown-down technique. In group 2 (12 teeth) the root canals were instrumented using nickel-titanium RaCe rotary instruments and crown-down technique. Debris and irrigant extruded from the apical foramen were collected into pre–weighed vials (using Myers and Montgomery technique) and the amounts were determined. Time taken for each instrumentation was also determined. The data were input and processed using the statistical software package SPSS 17.0.1. The level of significance for rejecting the null hypothesis was fixed at $p<0,05$.
Results: The amount of the debris extruded trough apical foramen in group 1 (K3 files) was 0,225 mg and in group 2 (RaCe files) was 0,213 mg. The volume of the extruded irrigant was 0,247 ml in group 1 and 0,238 ml in group 2. Time taken for instrumentation was 8,3 min by RaCe files and 8,7 min by K3 files. The difference in the amount of debris and irrigant produced among two groups was not significant.
Conclusions: It was concluded that the RaCe system induces less extruded debris and irrigant trough the apical

foramen, than the K3 system. But between two groups the difference was not significant.
This study was perform under contract №5/27.07.2009 by the Medical University- Sofia

Keywords: apical extrusion, rotary systems

12. ENDODONTIC TREATMENT OF TWO RADICULAR CYSTS WITH CALCIUM HYDROXIDE-IODOFORM-PROPOLIS PASTE - CASE REPORT:

Florjan Zoto, Filip Zoto
Albania

Introduction: Nowadays proper treatment of periapical pathologies has a fundamental importance. Their treatment is essential for the healing process of periapical area. The quality and success depends on the proper materials and methods used.
In our endodontic practice of these pathologies, especially radicular cysts, we have noticed that not all of them easily being treated. Their histological structure makes these pathologies resistant to routine endodontic treatment. Radicular cysts differ from other periapical pathologies by the presence of a organized epithelial layer on the inside of the cyst capsule.
Our treatment goal should be to act on this epithelial layer and to eliminate that. This is accomplished through calcium hydroxide-iodoform-propolis paste.
We have used this paste based on its features**:** antibacterial effect; high alkaline pH in direct contact, causes sterile necrose of epithelial layer; dissolve necrotic tissues, stimulates fagocitary activity and resolution of periapical area; activates alkaline phosphatase, a necessary enzyme for tissue recovery.
Case report: We have treated significant cases with successful results. We are presenting two typical cases**:**
The first case was a 25 year-old male with a radicular cyst after pulp necrosis. We affected to the cyst through the root canal. At recall visit performed first year every three months, and finally 25 years later, was examined clinically and radiologically. The second case was a 40 year-old female with a residual cyst after tooth extraction. In this case the passage of paste was accomplished through the alveola not closed for years after extraction. Bone recovery started after three months and ended after twelve months. We confirm success after 26 years.
Conclusions: Treatment of large periapical lesions with calcium hydroxide-propolis paste may result in healing without the need for surgical intervention.We think that our method is effective, simple and must be considered in routine dental practice.

Keywords: periapical pathologies,radicular cyst,calcium hydroxide

13. ACUTE TREATMENT OF A CROWN-ROOT FRACTURE OF THE RIGHT MAXILLAR CENTRAL INCISOR: A CASE REPORT

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Turkey

Introduction: Trauma to the oral region is common amongst all facial injuries and occurs in 5 % of all cases. Crown fractures and luxations of the maxillar region are the most frequently seen.
Aim: The objective of this case report is to present a conservative approach for the treatment of an extensive crown-root fracture of an endodontically treated maxillary central incisor.
Methodology: A 20 year old male patient was referred to our clinic with a recent history of a sport-related injury leading to loosening of his maxillary right central incisor. On clincal examination, we noted a complicated crown-root fracture, presenting mobility and asymmetry. The fracture line was localized just below the gingival magrin on the lingual surface so gingivoplasty was managed. At this initial visit root canal was preperate and filled with calcium hydroxide. A week later root canal finally obturated with gutta-percha and AH Plus. The coronal portion of the teeth was restorated with composite resin by means of a fiber post using.
Result and conclusions: Crown-root fractures are complex injuries that are difficult both to evaluate and to treat. Complicated crown and crown-root fractures, represent a dilemma for the restorative dentist. While uncomplicated crown fractures can be managed with conservative restorative options and severe complicated crown-root fractures typically are unrestorable, complicated crown and crown-root fractures where both the crown and the root are avaible and relatively intact may sometimes be managed with a tooth fragment reattachment technique using intra-canal anchorage. In addition, the clinician should always favor the most conservative alternative, the treatment options while providing for adequate esthetic, function and an acceptable prognasis. In this case we restorated coronal portion with composite resin. The main objective of the presented restoration is to provide a highly conservative approach that combines esthetics and function.

Keywords: crown-root fracture

14. A MULTI-DISCIPLINARY APPROACH TO TRAUMATIZED ANTERIOR TEETH: A CASE REPORT

Hakan Celik, Ibrahim Cagri Ozcelebi
Turkey

Introduction: Treatment of crown fractures often requires a multidisciplinery approach. In the anterior teeth, reestablishment of proper esthetics and function is quite important for the patient. However, crown-root fractures with fracture line below the gingival attachment or alveolar bone crest presents restorative difficulties.
Case report: This case report describes the management of an crown- root fracture of the cingulum of the upper left incisor and olso presents a cervical tooth fracture that

had been treated with minimal invasive approach with different disciplines. A 21 year-old girl had fractured her maxillar central incisor. The fracture line, compromising tooth and extented subgingivally on the palatal aspect invading the biologic width. The tooth had endodontic treatment, gingivectomy was carried out for fractured cingulum area and a bonded fiber post and core was accomplished. After removal of the fractured part, o provisional restorative build-up in this area was applied, in order to carried out an endodontic treatment in a sterile environment. For the fine contours of the gingival margins, the periodontal fibres associated with this tooth were cut with an tiny surgical blade. Orthodontic root extrusion or forced eruption is a well-documented clinical method for altering the relation between a non-restorable tooth and its attachmant apparatus, elevating sound tooth material within the alveolar socket. It has some advantages over surgical crown lenghtening but cause of patients preferences this case carried out with only periodontal surgery. The **Introduction:** of bonded fiber posts offered an esthetic solution for the restoration of traumatized teeth. After placement of bonded fiber post, all ceramic crown can be applied and obtain optimum esthetic outcome.

Conclusions: The present case reports a multidisciplinary management of a dental trauma that leads to conservation of a tooth and its permanent restoration without orthodontic extrusion cause of patient preferences.

Keywords: crown root fracture-dental trauma-gingivectomy

15. STUDY IN VITRO REGARDING ROLE OF COMPUTED TOMOGRAPHY IN DIAGNOSIS OF APICAL ROOT RESORPTIONS

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Romania

Introduction: The actual diagnosis method (conventional radiography) for apical root resorptions have a low sensitivity in the case of incipient root resorptions. Computed tomography can represent an useful method both in research field and particular clinical situations. **Materials and methods:** Study included 14 mandibular teeth (6 anterior teeth, 4 bicusps, 4 molars). The simulated resorptive cavities were prepared with spheric burs (diameters 0,4 mm, 0,8 mm, 1 mm, 1,2 mm, 1,6 mm). Teeth were introduced in a mandibular block. A total number of 192 simulated resorptive cavities**:** on buccal, mesial and distal surfaces were prepared cavities with diameter/deep 0,4 mm- 1,2 mm, on proximal and buccal surfaces (molars/bicusps)were prepared cavities with diameter/deep 1,6 mm. Computed tomography (CT) was performed with G.E. Hight Speed 2000 Dx/I (120 Kv si 150 A). 320 slices (1mm) were generated and tridimensional reconstruction of mandibular image was performed in two patterns (gray-level; RGB). The presence of simulated resorptive cavities was noted with (P), the absent resorptive cavities were noted with (N). Sensitivity of CT was noted with**:** P/ (P+N) x 100. **Results:** Computed tomography can detect 100% incipient root resorptions with minimum 1,2 mm diameter. Incipient resorptive cavities on anterior teeth can be detected in 94,4% percent, incipient resorptive cavities on bicusps can be detected in 95,8% percent, incipient resorptive cavities on molars can be detected in 85,3% percent. **Conclusions:** Computed tomography can be considered a method with high potential to detect apical root resorption in early stages, with higher sensitivity comparing with other paraclinical methods.

Keywords: root resorptions, computed tomography, simulated resorptive cavities, tridimensional reconstruction

16. DECALCIFICATION OF THE DENTIN IN THE PRESENCE OF CHELATORS AND SODIUM HYPOHLORITE

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FYROM

Ethylene diamine tetraacetate (17%) and citric acid (10%) are used as a chelators in endodontics to softened canal dentin, dissolve the smear layer and increase dentin permeability. The aim of this study is to detect whether the degree of the decalcification of the root canal dentin is higher when these chelators are used in combination with 2,5% Sodium hypochlorite (NaOCl. The study was conducted using 15 human unerupted third molars, denucleated and sectioned at the cemento-enamel junction using a diamond disc water-irrigated. The cementum of the cervical third was removed with a high-speed diamond bur until getting the dentin disc. The disc was devided on 4 equal parts. The specimens were assigned to five experimental groups**:** EDTA and citric acid alone or both in combination with 2,5%Sodium hypochlorite and a control group. The method for detection of decalcification is by atomic absorption spectrophotometer Varian SpectrAA 55B. For statistical analysis was used Wilcoxon test for paired comparisons. The differences between the means of each group compared to control group increased significantly. The means of Ca extraction after use as of EDTA were 24.05±2, after citric acid 24.39±2 and after combined use, the means were 25.25±3 for EDTA and 2,5% 2,5% NaOCl and 25.3±3.73 after citric acid and 2,5% NaOCl.The results of this study showed that the solitary use of EDTA or citric acid altered the mineral content of root dentin, whereas the use of chelators combined with 2,5% NaOCl irrigation change it highly significant.The most effective method to achieve good decalcification of the dentin is to irrigate the root canal with chelators EDTA or citric acid followed by 2,5% NaOCl.

Keywords: chelators, sodium hypohlorite, decalcification

17. ANATOMICAL VARIATION OF MANDIBULAR CANINE AND CONSEQUENCES ON PROSTHETIC TREATMENT

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Romania

Introduction: Human mandibular canines do not present an internal anatomy as simple as could be expected; there are canines with a single root and two canals, two roots or fused roots. The existence of mandibular canines with more than one root canal is a fact that clinicians ought to keep in mind, in order to avoid failure during endodontic treatment. In spite of the low incidence of canines with one root and two canals or two roots, this possibility cannot be forgotten. These morphological variations raise difficulties in endodontic treatment.

Case report:

This article presents two clinical cases of mandibular canines with two canals in the same root and with two roots and two canals. In both cases the canines were used as abutments for a prosthetic restoration and both went undetected on the usual X-rays examination. In the first case the second canal was found during the endodontic treatment steps and its presence was confirmed with a second X-ray from another incidence. The second case is a retreatment followed by a surgical phase.

Conclusions: The precise knowledge of the endocanalicular system's anatomy is essential for the success of the root canal therapy. The failure to detect all the canals and the incomplete canal filling ultimately results in the loss of the tooth. The long term success of the prosthodontic treatment depends directly on the quality of the endodontic treatment of the abutments. The mandibular canine is very important for any type of prosthetic restoration. The clinical cases reported show that such anatomical variations can also occur in Romanian population as much as described in the international literature and cannot be overlooked in private practice.

Keywords: anatomical variation, mandibular canine, endodontic treatment

18. ENDODONTIC TRETAMENT OF A MAXILLAR SECOND PREMOLAR WITH THREE ROOTS AND A MANDIBULAR FIRST PREMOLAR WITH TWO ROOTS: TWO CASE REPORT: S

Burcu Kocatufek Ozyilmaz, Funda Yilmaz Karan, Hakan Celik
Turkey

Aim: The aim of this poster is to present the diagnosis and the endodontic treatment of a maxillar second premolar with three roots and a mandibular first premolar with two roots.

Methodology: Case 1**:** A 20-year-old male patient was referred for endodontic diagnosis with a chief complaint of spontaneous pain associated with a maxillary right second premolar. Radiographical examination revealed a tooth with abnormal root canal morphology. On accessing the pulp chamber three canal orifices were evident, two buccal and one palatal. Length was determined and confirmed radiographically. Buccal canals were very restricted, because of that narrowly 8 k-files could placed. Root canals were prepared using step-back technique, irrigated with 1,25% NaOCl between each instrument. After the final irrigation, the canals were dried with paper points and obturated with lateral condensation technique using gutta-percha and AH Plus sealer.

Case 2**:** A 38-year-old male patient was referred to our clinic for endodontic treatment before the prosthetic rehabilitation of a mandibular left second premolar. Radiographical examination revealed a tooth with abnormal root canal morphology. After access cavity preparation, two canal orifices were evident, one buccal and one lingual. The root canals were prepared and obturated in the same manner as Case 1.

Results: Case 1**:** The patient was re-evaluated one month later. The tooth was completely asymptomatic. No radiographic changes were evident at this point. The patient is scheduled to be seen again in 6 months.

Case 2**:** The patient did not come to his control appointments. Therefore this case could not followed.

Conclusions: The possibility of unusual anatomical variations should be considered in all teeth, and clinicians should be able to apply this knowledge in clinical and radiographic interpretation. The long-term prognosis of the root canal therapy will be compromised whenever the clinician fails to diagnose these anatomical variations.

Keywords: anatomical variations, abnormal root canal morphology

19. THE MIDDLE MESIAL CANAL IN MANDIBULAR FIRST MOLARS

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Romania

Introduction: Although the first lower molar is commonly a bi-rooted tooth with an uncomplicated endodontic anatomy, variations of it have to be considered every time endodontic therapy is performed. The third mesial canal in human lowers first molars, also known as the middle mesial canal, has an incidence varying from 1% to 15% (Jacobsen et al. 1994, Baugh&Wallace 2004, Navarro et al. 2007). This is a series of cases reporting the non-surgical endodontic treatment/retreatment performed on mandibular first molars, with five root canals, located two in the distal root, and three in the mesial root. Report of the cases**:** Three mandibular first molars were found with five canals during endodontic procedures under the dental operating microscope (Opmi Pico, Carl Zeiss, Oberkochen, Germany). Pre-operative periapical X-rays, taken in more than one incidence, were useful in confirming the particular endodontic anatomy of the teeth. ProTaper Universal rotary nickel-titanium instruments (Dentsply Maillefer, Ballaigues, Switzerland)

for treatment and retreatment were used to clean and shape all root canals and to remove the old filling material existing in the second case, under magnification with the dental operating microscope The endodontic space was filled with thermoplasticized gutta-percha in the continuous wave of condensation technique using System B and Obtura II (Sybron Endo, Orange, CA, USA). Postoperative control radiographs from different angles were taken to confirm the quality of the performed treatment and the integrity of the radicular system, in each of the cases.
Conclusions: The middle-mesial canal is an anatomical variation of relatively low frequence, but with therapeutical mandatory approach. Unidentified and untreated middle mesial canals may lead to unexplained endodontic failures. Once discovered, utmost care has to be taken not to fragilize the structure of the mesial root.

Keywords: Dental operating microscope; Endodontic anatomy; Endodontic therapy; Mandibular first molar

20. THE ACCURACY OF WORKING LENGTH DETERMINATION DURING ENDODONTIC RETREATMENT

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Romania

Aim. Endodontic retreatment requires complete removal of contents from the root canal and the orthograde endodontical approach of the whole system. Restoring access to the entire length of the canal will allow the action of the irrigation solution and the intracanal medicaments, thus facilitating the success of this approach.
Materials and methods: For this in vitro study were selected 30 maxillary anterior teeth, with fully formed apices, no root defects and intact crowns. The teeth were instrumented and filled by cold lateral condensation and then retreated, according to the protocol established for this experiment. After the endodontic retreatment the working length was determined using direct and electronic methods, the values being recorded and compared. Were used the following electronic apex locators**:** Root ZX (J. Morita Corp. FGM, Kyoto, Japan), Element Diagnostic Unit (SybronEndo, Sybron Dental, Anaheim, CA, USA), ProPex (Dentslpy Maillefer Switzerland), i-Pex (NSK, Nakanishi Inc., Japan).
Results: To validate the results, the measurements were recorded by two independent observers, all the values being placed in a statistical analysis program. The working lenghts were analyzed aiming to evaluate the apex locators 's performances, reported to the initials values and the specific endodontic retreatment implications. Accuracy of determinations was 96.6% (n29) for Morita, EDU 93,3% (n28), 90% (n26) for Propex and 86,66% (n27) for I-pex.
Conclusions: The apex-locators can be used successfully to determine the working length in endodontic retreatment. Determinations were not influenced by root canal sealer or gutta-percha. The file used to determine the working length is preferable to have an ISO size closer to apical constriction diameter, in order to obtain an accurate determination.
Desing's display and individual scale models may affect the accuracy of the results till the practitioner get used to an apex-locator.

Keywords: endodontic retreatment, maxillary anterior teeth, apex locators

21. UNUSUAL CASE OF MAXILLARY SECOND MOLAR WITH FOUR ROOTS AND FOUR ROOT CANALS

Janet Kirilova, Snejanka Topalova-Pirinska

Introduction: Maxillary second molars anatomy is well known. It has three roots and three separate canals in 88 % of cases and a fourth canal in the mesiobuccal root in 12% of cases.Others found six variations of the maxillary second molars.One of them was - four separate roots and four separate canals including palatal in 1.4% of cases.
Case report: The aim of this report was to describe endodontic treatment for a rare case of maxillary second molar - four roots and four root canals. A 25-year-old female patient with non-contributory medical history presented for an endodontic treatment.The diagnosis of the left maxillary molar was Pulpitis chronica ulcerosa. Intraoral X-ray examination was not so clear about roots and root canal morphology. There were unerupted tooth of wisdom on X-ray. The access cavity was refined and four canals were detected with the aid of microscope / two of which were mesiobuccal and two of which were palatal/.The shape of the pulp chamber were like a rhomboid,not as usual a triangular. The measurement of the root canals were made with electronic device and X-ray. The canal were then shaped with Twisted files ritary instruments by crown-down techniques. After of each instrument for root canal preparation were made irrigation with 2.5% sodium hypochlorite,water,3% hydrogen peroxide.The canal fillings were made by thermiplastic techques with sealer and Thermafil.
Conclusions: A complex endodontic treatment were presented.With the assistance of microinstruments and magnification devices a maxillary second molar was successfully treated. It is very important to know the anatomy of root canals of all teeth and their variations.

Keywords: endodontic treatment,maxillary second molar

22. NON-SURGICAL ENDODONTIC TREATMENT OF PERIAPICAL LESIONS 3 YEARS RETROSPECTIV STUDY

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FYROM

Objective: The aim of this three years retrospective study

were to present our experience with Nd**:** Yag laser in the therapy of chronically periapical lesions.
Study design: On 56 teeth with X-ray we determined periapical radiolucency and most of them had acute symptoms characteristic for the exacerbation stadium. The teeth were opened, the contents of the canals were removed and we achieved drainage in the first session. In the second step we prepared endodontic treatment, crown-down technique for root canal instrumentation and NaOCl irrigation after each file change. The root canals were dried with paper points. The optic fiber, from the pulsed Nd YAG laser was set in each canal and laser radiation with circular slow motions from the apex to the crown was applied 3 times, each period of 5 seconds. After the treatment the root canals were obturated temporally or permanent with AH plus and gutta-percha. We made control radiograms in different periods of time after the therapy.
Results: Out of the 56 tested cases, in 3 patients, after the first laser treatment, subjective symptoms were found and the patients were submitted for surgical treatment. Seventeen root canals after the sterilization with Nd**:** Yag laser were obturated temporally with Ca (OH)2 paste. In two cases after first laser therapy the canal system was filled with secretion and a dry working field has been achieved after 2 or 3 minutes, and then we apply a canal filling medicament.
Conclusions: Nd YAG laser is efficient in the therapy of the chronically infected root canals and the periapical lesions. The endodontic treatment is shorter and laser therapy calms the subjective symptoms and the clinical manifestations.

Keywords: Nd-Yag laser, endodontic treatment, periapical lesions

23. TREATMENT OF PERIAPICAL LESIONS BY THE CONSERVATIVE WAY

Laureta Peposhi, Adela Lleshi, Valbona Disha, Fatbardha Aliaj, Vasil Stathi

Introduction: Despite the great achievements that were made in endodontic treatments, there are still very frequent periapical lesions. Diversity of them significantly affects in the way of their treatment, as with conservative treatment or surgical. The purpose of this study is to evaluate the conservative approach in the treatment of periapical lesions for our patients, based on all the characteristics that accompany them.
Materials and methods: We have treated 57 patients with conservative treatment with granuloma, cystoze granuloma and cyst (treatment of chronic periapical lesions). Differential diagnosis, control of endodontic infection, expansion located in the apical foramen and filling of the cavity or granulomatoze cystic with paste containing calcium hydroxide and jodoform were important procedures for the resolution of cases. The study included 57 patients with periapical lesions, which are treated with this paste and followed for a period of 2 years.
Results: All patients who were treated with the above method not only reacted very well, but during the assessment with radiography, the cases present elimination of these lesions and bone regeneration. The only factors related to duration of treatment and the slowdown of the speed of bone formation was prolonged time of pathology, age, sex and malnutrition.
Discussion**:** Based on the latest literature on treatment of periapical lesions and our clinical experience we can say that conservative treatment is appropriate and quite healthy, especially in the treatment of patients in our country.

Keywords: cyst, granulome, conservative treatment

24. RADIOGRAPHIC QUALITY OF ROOT FILLINGS PERFORMED BY UNDERGRADUATE STUDENTS

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Bosnia and Herzegovina

Introduction: The concept of modern endodontics is based on adequate biomechanical tooth preparation and three-dimensional obturation. It is generally accepted that the outcome of an endodontic treatment is positively correlated with the technical quality of the root filling. Thus, cross-sectional studies can provide reliable information on the long-term success rate of root-canal treatment within a given population. The aim of this study was to investigate the quality of endodontic treatment and the prevalence of iatrogenic errors in treatments provided by undergraduate students.
Materials and methods: This study involved adults (>20 years old) seeking routine dental care in Department of Restorative Dentisty and Endodontics, Faculty of Medicine, Foca, Bosnia and Herzegovina. Panoramic radiographs of all participants and additional periapical radiographs of affected teeth were processed. A total of 73 teeth were used to assess the technical quality of root fillings performed by 4th and 5th year undergraduate students. The technical quality of root fillings was evaluated for both apical extension and homogenity. The presence of root perforation and fractured instruments were also investigated. The Chi-square test was used for statistical analysis.
Results: Adequate root fillings were found in 63.0% of canals. The homogenity of the root fillings (adaptation of fillings to the canal walls) were found in 82.2% of canals.The iatrogenic errors occurred in 9.6% of teeth. More acceptable root fillings occurred in maxillary compared to mandibular teeth ($P < 0.05$) and in anterior compared with premolar and molar root canals ($P < 0.05$).
Conclusions: There is a need to improve the technical quality of root fillings performed by the undergraduate students, especially in molar teeth.

Keywords: dental students, radiographs, root canal treatment, technical quality

25. MTA APICAL PLUG IN TEETH WITH LARGE APICAL FORAMINA

Luminita Maria Nica, Stefan Ioan Stratul, Camil Ianes, Zeno Florita, Darian Rusu, Andreea Didilescu, Alexandru Ogodescu
Romania

Introduction: Dramatic healing of periapical lesions in teeth with large apical foramina have been reported since long time ago (Giuliani et al. 2002, Hayashi et al. 2004). When filling root canals with large apical diameter, a technical challenge is to place a homogenous barrier to seal the endodontic space from the periapical fluids and tissues. Report of the cases**:** This is a series of cases reporting on placing MTA apical plugs under direct visual control by using the dental operating microscope (Opmi Pico, Carl Zeiss, Oberkochen, Germany). Four upper incisors (two centrals 11 and two lateral incisors 22) diagnosed with pulpal necrosis, underwent endodontic therapy. Under isolation with rubber dam, access cavities were created using high speed diamonds. WL was established electrometrically and instrumented. Canals displayed large apical foramina (>0.80mm) which imposed the use of MTA apical plugs. The granulation tissue in the periapex could be observed. Special care was taken in debriding the apical part of the canal using MicroDebriders (Dentsply, Maillefer) and irrigation with 5.25% sodium hypochlorite. Calcium hydroxide was used as an interim dressing for two weeks in one case. MTA was placed with Dovgan carriers (Vista Dental, Racine, WI, USA), ultrasonic vibrated with Satelec K-files attached to P5 Booster with low intensity and condensed with S-condensers (Obtura Spartan, Earth City, MO, USA), in two or more application-vibration-compaction series, to ensure an apical plug of 5-5.5mm. The cement was covered with a moisten pellet for 24 h, teeth were temporay filled. After 24 h, teeth were isolated again and backfilled using thermoplastified gutta-percha from Obtura II gun. **Conclusions:** DOM is an irreplaceable tool in placing MTA of any kind. MTA is the material of choice in treating teeth with large apical foramina.

Keywords: teeth with large apical foramina, MTA, apical plug

26. THE INCIDENCE OF DENTINAL CRACKS CONSECUTIVE ROTARY INSTRUMENTATION

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Romania

Aim**:** The appearance of the root cracks during root canal instrumentation is determined by the associated effect of many factors.
Materials and methods: Thirty teeth with straight single canals were selected and prepared using K3 rotary system (SybronEndo, Orange, CA). The operative protocol was the one specified by the manufacturer. The teeth were scanned using cone-beam computed tomography pre- and postoperatively. For each tooth were obtained approximately 50 sections both horizontally and vertically. Sections were examined using the CT' s own software and the presence of a crack was noted for each tooth before and after root canal treatment.
Results: The dentinal cracks were found in 40% of the teeth and most of the defects appeared in the coronal third of the root canal. Only one tooth had a crack in the middle third of the root. No defects were observed in the apical sections.
Conclusions: The study was performed in vitro which involves a degree of dehydration of the teeth. The absence of the periodontal ligament can also justify in a certain extent the behavior of radicular dentin. Using EDTA and sodium hypochlorite with the increasing number of rotary endodontic instruments may induce the appearance of multiple cracks.

Keywords: K3 rotary system, cone-beam computed tomography, dentinal cracks

27. CORONO-RADICULAR FRAGILITY OF THE TEETH WITH ENODONTIC THERAPY – EXPERIMENTAL STUDY

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Romania

Introduction: The teeth with endodontic therapy are considered more fragile compared to the vital ones. The fragility of the dentin is responsible for the high susceptibility to fracture of a tooth with endodontic treatment. This fragility may also result from the loss of the dental structure, witch leads to a critical decrease of dental resistance.The dentinal fragility is due to the degradation of the matriceal modules of the dentin after the interruption of the pulpal metabolism following the endodontic treatment.
The aim of this study was to produce in vitro corono-radicular fractures, similarly to those clinical observed, and compares the resistance to fracture of several teeth with different preparations.
Materials and methods: We selected 30 human extracted teeth, which were hold in sodium chloride till testing and grouped in**:** 1. Teeth without any preparation; 2. Teeth with endodontic acces; 3. Teeth with endodontic acces and approximal cavities. All the teeth supported individually constant increasing forces which acted on the oclusal surface until fracture appeared.
Results: - The result was the apparition of several fractures oriented mesio-distal and vestibulo-oral, constantly interesting the pulpal chamber and extending to the lateral root surface.
Conclusion The corono-radicular fractures created in vitro resemble the clinical observed fractures in orientation and propagation. In most clinical cases the coronal restoration after endodontic therapy of a tooth with aproximal caries and large endodontic access requires protection by a crown. The therapeutical reason is suggested by the fragillity of the collagen fibres protected by glycosaminoglycans.I n the absence of the odontoblastic

activity, the dentinal resistance could be mentained by means of matriceal trofics.

Periodontology

1. NEUTROPHIL CHEMOTAXIS DYSFUNCTION COMBINED WITH AGGRESSIVE PERIODONTITIS: ANALYSIS OF PROTEINS RELATED

Mârţu Ioana, Ursache Maria,Ionut Luchian, Costuleanu Marcel
Romania

Aim: In this study, we attempted to identify the proteins involved in aggressive periodontitis associated with neutrophil chemotaxis dysfunction using proteome analysis.
Materials and methods: The mRNA levels of the proteins identified by the above method were examined in neutrophils from four types of subjects using the real-time polymerase chain reaction**:** 5 patients, suffering from aggressive periodontitis with or without the dysfunction, 5 patients with chronic periodontitis, and 5 controls. A two-dimensional fluorescence difference gel electrophoresis system was used to detect differences in protein expression between neutrophils.
Results: Four proteins, lactoferrin, caldesmon, heat shock protein 70, and stac, displayed a higher protein expression level in the neutrophils from the patients suffering from aggressive periodontitis combined with the neutrophil dysfunction than in those from the control group.
Conclusions: Caldesmon may be a marker of aggressive periodontitis combined with neutrophil chemotaxis dysfunction.

Keywords: aggressive periodontitis; caldesmon; neutrophil chemotaxis dysfunction; two-dimensional fluorescence difference gel electrophoresis

2. C-REACTIVE PROTEIN – A MARKER FOR ASSESSING THE CARDIO-VASCULAR RISK IN PATIENTS WITH PERIODONTAL DISEASE

Amelia Macovei Surdu, Ionut Luchian, Silvia Mârțu
Romania

Periodontitis, according to recent studies, may be associated with a moderate inflammatory response from the host (increased CRP level, ESR, etc.), that may increase the risk for cardiovascular disease in these patients.
Objective: The purpose of this study was to highlight the increased levels of CRP in patients with moderate to advanced periodontitis and to observe the evolution of the PCR level after initial periodontal treatment (causative).
Materials and methods: We selected 10 patients without general diseases but who had moderate to advanced periodontitis diagnosed clinically and radiographically. We measured the level of CRP (latex method) before and 2 months after etiologic treatment (baseline) of the periodontitis.
Results: The mean level of CRP measured in 10 patients in our study before the etiologic periodontal treatment was 11 mg / l. At 2 months after treatment, most patients - 8 (80%) experienced a decrease in CRP level - <6 mg / l.
Conclusions: Periodontitis are associated with elevated CRP levels and may be considered risk factors for CVD. Etiologic treatment of the periodontal disease reduces CRP levels, thereby decreasing the risk of CVD.

Keywords: CRP, periodontal disease, latex method.

3. ORAL HYGIENE IN CARDIOVASCULAR PATIENTS

Sanda Mihaela Popescu, Veronica Mercut, Monica Scrieciu, Mihaela Tuculina, Adina Glodeanu, Emma Cristina Draghici, Celesta Maria Nemtaru
Romania

Aim: The objective of the present study was to determine the level of dental education and the oral health concern in a group of patients with different cardiovascular illnesses.
Materials and methods: The study group included 150 patients aged 62.32 (10.41) with different cardiovascular diseases (hypertension, coronary heart disease, chronic cardiac insufficiency). A questionnaire evaluated their personal oral hygiene habits and the importance they accorded to oral health.
Results: 24% patients from the group reported they received professional education about dental brushing. Once daily dental brushing was performed by 44% of patients, while 24% of them never brushed. The frequency of the dental visits was very low, 28% patients presented to the dentist five years ago, 24% patients were to the dentist 10 years ago and 16% patients have never done dental check-ups. The patients presented to the dentist in the last year were mainly for emergency dental care. Although 96% patients from the group have never been scaled, only 60% from them have complained about gingival bleeding. From these, 40% have made some correlations between inaccurate dental brushing and gingival bleeding. 40% patients from the group considered that oral hygiene and cardiovascular illness could have been related, and 28% patients could not have made a connection between the general health status and oral hygiene.
Conclusions: There is an important need for a better collaboration between the cardiologist, the family doctor and the dentist in order to make the patients fully aware of the impact of oral health on general health status, underlining preventive dental control importance in oral and general health.

Keywords: oral hygiene, oral health, cardiovascular patients

4. EPIDEMIOLOGICAL STUDY ON THE PERIODONTAL STATUS AND TREATMENT NEED IN A ROMANIAN POPULATION SAMPLE

Silvia Mârțu, Sorina Solomon, Liliana Pasarin, Oana Potârnichie, Ioana Rudnic, Cristina Dascălu, Mihaela Cărăușu
Romania

Aim**:** Evaluation of the periodontal status and the treatment need in a national patient sample.
Materials and methods: The sample consisted in 8145 patients (4020 men, 4125 women), utilizing**:** CPI, according to WHO methodology.
Results: Results obtained are resumed as follows**:** (1) at 15-25 years old group there's 25%, periodontal impairment, gingival inflammation being prevalent; (2) at 26-35 years old group there's 40% (CPI1-22%,CPI2-17%), (3) between 36-45 years of age there's 46% prevalence of the periodontal disease, calculus and mild periodontitis (CPI2-22,5%,CPI3-3%); (4) for the 46-65 years age group the prevalence of the periodontal disease is in average of 57% with moderate periodontitis (CPI2-24%, CPI3-5%); (5) for the group of 65 years and above there's severe periodontitis in 62% of the patients and edentation (12,5% - out sextant). When assessing the treatment needs, there is a great difference between rural (43%) and urban patients (36%).
Conclusions: In order to obtain periodontal health it is necessary to adapt the national, regional and local programs to the WHO objectives according to the local particularities.

Keywords: periodontal status, national patient sample, WHO methodology

5. THE EFFECT OF SMOKING ON PERIODONTAL HEALTH IN ADULTS

Smiljka Cicmil, Jelena Krunic, Nikola Stojanovic, Jelena Krsmanovic
Bosnia and Herzegovina

Introduction: Cigarette smoking is a risk factor for several diseases, and recent evidence suggests an adverse effect on periodontal health. However, the nature of the relationship between smoking and periodontal disease is not clear. Most studies about the association between smoking and periodontal disease have shown that tobacco negatively affects periodontal tissues, although some authors have failed to demonstrate such association.
The aim of this study was to investigate the effect of smoking on periodontal health in adults and possible difference between genders.
Materials and methods: A total of two hundred and seven subjects from Republic of Srpska, Bosnia and Herzegovina, in the age range from 34-44 years participate in the study. According to smoking subjects divided into two groups. The examination was carried out according to World Health Organization (1997) methodology and criteria using dental mirrors, standard CPITN periodontal probe and daylight.
Results: An analysis showed that the frequency of smokers among 207 patients was 44%. 45.4% of this were males and 42.7 were females. Results of this study showed that smokers brushing teeth more frequently then non-smokers, but this difference were not statistically significant. Periodontal condition as measured by CPITN showed that there was no significant difference between smokers and non-smokers. However, significant difference of periodontal health was observed between females ($p<0.05$).
Conclusions: In this study, no significant difference in periodontal condition as measured by CPITN was found between smokers and non-smokers subjects. The results of this study indicate that smoking influence periodontal health in females. Further studies with more sensitive periodontal indices are recommended in order to evaluate effect of smoking on severity of periodontal disease.

Keywords: adults, CPITN, periodontal health, smoking

6. POSSIBILITIES OF RECOVERY TEETH AFFECTED BY EXTERNAL ROOT RESORPTION

Sorina Solomon, Oana Potârnichie, Cătălina Dănilă, Silivia Teslaru, Liliana Păsărin, Rudnic Ioana
Romania

Root resorption is an intermediate step in the evolution of periodontal disease.
Aims**:** Evaluation of the cases presenting external root resorption (ERR), identification of etiologic factors and evaluation of the treatment plan.
Materials and methods: A ten years retrospective study (2000-2011) of cases from the archive of a dental office, with history of ERR. The study was based on the analysis of patients' charts and radiographs.
Results: There have been identified five cases of ERR with evident radiographic documentation.
Conclusions: External root resorption of permanent teeth is a rare entity in general dental practice with complex etiology. Iatrogenic causes which contributed to ERR were**:** teeth whitening, orthodontic treatment, tooth replantation. External root rezorbtiei management requires different approach, depending on different etiological factors. The decision to preserve or extract a tooth with ERR depends on severity of the lesion and the particular factors.

Key words**:** external root resorbtion, etiologic factors, treatment management

7. PREVALENCE OF INJURIES OF PERIODONTAL TISSUE

Danijela Subotic, Maja Ojdanic-Delic
Montenegro

Introduction: Most traumatic dental injuries of all occur

among children.There are a number of common injuries that occur to teeth. Beside the destruction of hard teeth tissues, which are the most common, serious problem are injuries of periodontal tissue.

Aim: The aim of this retrospective study was to determine the prevalence of injuries of periodontal tissue in children during the period from o1.o1 2009 – 31.12 2010.

Methodology**:** 3772 children, aged 1 to 18 years, where included in this study. They were examined during the 2009 and 2010 year, on Department of preventive and child dentistry in Clinical Centre of Montenegro. Data was received from the records of patients and initially was sorted according to their sex, age, number of injured teeth, type of tooth and type of trauma.

Results: Research showed that the prevalence of traumatic injuries of periodontal tissues were present at 0,5 % of all patients included in this study. The gender difference in the number of cases of trauma was statistically significant (boys 69 % vs. girls 31 %).The most frequently injured teeth were upper central incisors. Most of the injuries occurred in a patients age from 5 to 12 years old. A single tooth injury represented 50% of all injuries. Injuries of permanent teeth were more frequent than injuries of deciduous teeth (permanent teeth 70 % vs. deciduous teeth 30 %).

Conclusions: Results of this study shows that it is necessary to conduct preventive program which, regardless of different and multiple causes of tooth injuries, could be successful (education of school teachers and sport educators in most often risk situations for tooth trauma and preventive steps that could avoid them).

Keywords: injuries of periodontal tissue, children

8. THE USE OF SALIVARY 8-OHDG BIOMARKER IN PREVENTION OF PERIODONTITIS

Victoria Badea, Corneliu Amariei, Cristina Nuca, Mircea Grigorian, Cristina Arendt
Romania

Introduction: Many studies showed that periodontitis at the young adults are non treatable and at the elderly persons this disease destroy great parts of the natural teeth. All these phenomenons are reflected in the quality of life by esthetic and physiologic functions due to natural teeth.

Objective: The aim of this study was to evaluate the difference of salivary levels of 8-OHdG biomarker, resulted by oxidative stress in health and chronic periodontitis patients.

Materials and methods: The study group was formed of 25 subjects (11 healthy subjects; 14 chronic periodontits subjects) with the age 35-44 years, that agreed to participate in this study. Periodontal examination consisted of BOP (bleeding on probing), API (aproximal plaque index), PD (probing depth). The salivary samples were collected after the clinical exam in both groups; after 6 month clinical exam and saliva samples was repeated only for healthy subjects. The 8-OHdG biomarker was measured using ELISA kit (Cayman,USA), competitive method. Statistical analyses was performed using SPSS14 and Med Calc 11.3.0.

Results: At healthy group the salivary 8-OHdG biomarker was 1.52±0.27ng/mL and in chronic periodontitis group 5.15±0.37 ng/mL. After 6 months at healthy group clinical oro-dental examination showed that all subjects were clinically and biochemical health with the exception of 3 subjects that are clinically heath but 8-OHdG level was increased 2.42±0.36 ng/mL. Statistical analyses of the data showed a significant difference of the mean value 8-OHdG salivary level between healthy and periodontitis subjects ($p<0.001$), and in healthy group, between first and second determination of salivary biomarker. ($p<0.05$)

Conclusions: The salivary 8-OHdG biomarker was increased before the appearance of clinical signs, demonstrates that this biomarker can be used as a screening method in order to prevent periodontitis. This biomarker can be used as a new diagnosis strategy in the maintenance of oral health.

Acknowledgments**:** This work was supported by CNCSIS-UEFISCSU, project PN II- IDEAS, 1131/16.01.2009.

Keywords: prevention, periodontitis, biomarker

9. AUTOTRANSPLANTATION OF FIRST PREMOLAR TOOTH DURING ORTHODONTIC TREATMENT; RADIOGRAPHIC FOLLOW UP: A CASE REPORT

Zeynep Eroglu, M. Nejat Arpak, Merve Alayli
Turkey

Introduction: Autotransplantation involves the transfer of a tooth from its alveolus to another site in the same person. The recipient site may be either an extraction site or a surgically prepared alveolus. Autotransplantation of premolars has evolved as an accepted option in orthodontic treatment in connection with orthodontics over the last 3 or 4 decades.

Case report: A 18 years old male patient was reffered to Ankara university, faculty of dentistry, department of orthodontics for orthodontic treatment. The patient was directed department of periodontology for replantation of first premolar tooth by department of orthodontics. After clinic and radiographic examinations, left first premolar tooth was seen to take place of palatal region out of dental arc. By surgical operation, the tooth was extracted and was applied endodontic treatment extraorally. Upon dental arch, when alveol bone was prepared by trephine drill, the tooth was replanted. Periapical control radiographies was taken at 1, 3, 6, and 12 months. Post operatif complications did not occur. No gingiva linflammation was observed around the autotransplanted tooth at 1 month. No replacement root resorbtion was observed at the one year follow-up after autotransplantation. Orthodontic treatment is continue.

Conclusions: In summary, tooth transplantation essentially is a specialized procedure that should only be performed by professionals who are familiar with the technique and able to conduct the procedure with a sufficient frequency to maintain the skill level needed to achieve successful tooth transplantation. Auto-

transplantation of teeth offers an effective treatment option, particularly when combined with a sufficient plan of orthodontic therapy and an effective method for achieving the reconstruction and stability of occlusion.

Keywords: Autotransplantation, orthodontic treatment

10. A NEW TECHNIQUE FOR TREATMENT OF LOCALIZED GINGIVAL RECESSION: A CASE REPORT

Fatma Böke, Murat Akkaya
Turkey

Lately, esthetic is becoming an important concern in dentistry. Because, gingival recession is one of the esthetic problems in anterior region of the mouth, a lot of surgical techniques have been proposed to obtain root coverage on exposed root surfaces. The coronally repositioned flap (CRF) is one of the most effective technique for the treatment of Miller Class I recessions. Although CRF has several modifications, all of them needs vertical or oblique releasing incisions. The aim of this case report was to evaluate the effectiveness of a new CRF procedure without any releasig incision for treatment of localized gingival recession defects.
Case report: A 45 year old female patient complaining of tooth hipersensitivity due to gingival recession on the mandibular left first premolar tooth was treated with a new CRF technique. The technique was depending on a split thickness flap procedure without a releasing incision. Following local anesthesia, flap design was obtained using oblique submarginal incisions in the interdental areas continued with intrasulculer incisions of the tooth with recession defect and adjacent teeth mesial and distal to it as dicribed by Zuchelli and Sanctis. A trapezoidal split thickness flap was elevated up to apical portion of the flap to allow coronal movement without any tension. The papillas adjacent to the involved tooth were de-epithelized. Root surface was mechanically decontaminated using sharp curets and irrigated with saline. The flap was then coronally placed and only one sling suture was used to stabilized the flap. It's convenient to keep it in place with light pressure through a piece of gauze so that a blood cloth can form.
The clinical reevaluation was performed at the 1st, 3rd, 6th months and 1st year after surgery. At the post operative 1st. 3rd., 6th. Months and 1st year the rooth coverage was 100 % regarding preoperative recession depth and preoperative recession width. The increase of keratinized tissue was 2 mm.
Conclusions: The new coronally repositioned flap technique is effective in the treatment of localized gingival recession defect.

Keywords: gingival recession, coronally repositioned flap

11. USE OF FIDELIS III ND: YAG LASER FOR SURGICAL TREATMENT OF ORAL MUCOUS LESIONS: CASE REPORTS

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FYROM

In order to follow the clinical outcome of Fidelis III Nd**:** YAG laser two patients with oral mucous lesions, as a replacement for classic surgical treatment and the use of scalpel, were treated with the energy of the laser beam
In the first case frenectomy was planned and performed, and in the second case a gingival fibrous lesion was removed in total. Both cases were clinically and photographically recorded. After the intervention, patients revealed great acceptance and pleasure, also looking forward for further cooperation. The laser treatment was painless, with excellent visibility and preciseness due to clean surgical area devoid of blood. Minimal tissue damage resulted in fast epitelisation and reparation. Bactericide and antiedematous effect of the laser contributed for faster wound healing without post surgical complications. Adding up the short duration of the therapeutic intervention, we can certainly say that the achieved results were highly positive. Advanced clinical results that we realized, confirmed also by other investigations, allow us to conclude that the use of laser in dentistry has significant advantages. We are convinced that this technology in the future will hustle the classic surgical methods and will become a part of ordinary dental practice.

Keywords: laser; frenectomy; fibroma; gingival

12. TREATMENT OF CENTRAL GIANT CELL GRANULOMA USING DIOD LASER - CASE REPORT

Gulsah Tatar, Pinar Karabagli, Nilgun Ozlem Alptekin
Turkey

Introduction: Central Giant Cell Granuloma (CGCG) of the jaws is a benign intraosseous lesion of unknown etiology that occurs with very low frequency. It mainly occurs in children and young adults and is more common in mandible. The histological, radiographic and clinical diagnosis is particularly difficult in these types of lesions due to their variable clinical behavior and identical histological presentation with abundant giant cells. The usual treatment for CGCG is surgery, ranging from curettage and en bloc to resection. This report presents the management of a CGCG in a 36-year-old male with its phase-1 periodontal therapy and surgical treatments with use of diode laser application.
Case report: In this case report, we presented a treatment of a peripherally localized central giant cell granuloma in a 36 years old male patient who complained swelling, bleeding and loss of function in right mandibular posterior region. The lesion was located at lingual area of the third molar tooth (48), measured 10×15 mm in size, was a painless, purple in colour and bleeding if touched. The periapical X-rays showed a bone loss around tooth 48, demonstrating the possible involvement of the

periodontal ligament. Two week after phase-I periodontal therapy, tumor mass and margins of the normal tissue were removed by using 940 nm diode laser. After resection biopsy, the right mandibular third molar was extracted. The histological study confirmed the diagnosis of central giant cell granuloma and the histological characteristics of these lesion consisted in hyperplastic granulation tissue with many multinucleated giant cells. Eight months later, no recurrence had been observed.
Conclusions: In the limit of this case report, we observed that the diode laser application is effective surgical method for the treatment of CGCG.

Keywords: treatment, diode laser, granuloma

13. ACUTE NECROTIZING ULCERATIVE GINGIVITIS - A CASE REPORT

Hakan Eren, Ersun Gushi, Sebahat Gorgun
Turkey

Introduction: Acute Necrotizing Ulserative Gingivitis (ANUG) is a relatively uncommon periodontal disease characterized by gingival necrosis and ulseration, pain and bleeding. Criteria for the diagnosis of ANUG is (1) Ulceration and necrosis of the interdental papilla, (2) bleeding and (3) pain. This clinical condition has a multifactorial etiology consisting of poor oral hygiene and malnutrition. Stress; which has long been known to be associated with the disease, appears to play a role through induction of increased cortisol and catecholamine levels. These chemical mediators respectively may compromise the host immune responses and the gingival microcirculation. So, the development of ANUG is connected with preexisting gingivitis and factors of disposition which are able to influence the host resistance. Smoking is also a predisposing factor related to ANUG.
Case report: An 18 years old male patient was referred to our hospital for pain and severe bleeding in his gingiva. In patient's medical history, there were no systemic illness, only but he was a smoker. Clinical examination showed poor oral hygiene with ulceration and necrosis of the interdental papilla especially severe in posterior right mandible. There were no findings consistent with clinical condition in radiological examination like cortical bone loss. This case report presents clinical findings, predisposing factors and treatment of ANUG.
Conclusions: ANUG is a severe, painful gingival disease related with decreased host resistance according to poor oral hygiene, malnutrition and emotional stress. Treatment modalities involve eliminating or reducing the levels of bacterial pathogenes by mechanical and antibiotic means, along with attempts at controlling significant psychological and physical precipitating factors.

Keywords: ANUG, necrotizing gingivitis, gingiva, oral ulceration

14. A NEW SUTURE TECHNIQUE FOR PERIODONTAL SURGERY

Murat Akkaya, Fatma Böke
Turkey

When periodontal flap surgery is applied, after surgical area is cleansed and if necessary resective and regenerative procedures are completed, flaps are placed in the desired position by means of the sutures. The purpose of suturing is to maintain the flap in its position, primarily close up the wound margins, control bleeding and decrease pain. Various suturing techniques are used for periodontal surgery. These techniques are classified as interrupted, sling, continuous sling, double continuous sling, external and internal mattress, suspansory, anchor and laurel loop sutures. Technique's selection is primarily determined by the final flap position, surgical procedure and ease of placement. The purpose of this report is to provide information about a new suture technique for sturing a flap rised on one surface and involving one papilla. Technique**:** The needle enters the flap papilla facially and carried lingually around the neck of the first neighboring tooth. Suture does not enter the lingual flap. The sture passed through from interproximal area to facial surface and looped back around the teeth next to the involved papilla. Then, the sture is passed through the lingual surface of next tooth from interproximal area of this tooth and looped around only this tooth again. Finally, the sture is passed through facial surface from involved interproximal area and tied without creating a tension on the flap.
Conclusions: The new suture technique is effective for sturing a flap rised one surface and involving one papilla.

Keywords: suture technique

15. ORAL COMPLAINTS AND GLYCEMIC CONTROL IN PATIENTS WITH DIABETES MELLITUS

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Introduction: Variety of oral symptoms in diabetic patients such as burning mouth sensations, impairment of taste (dysgeusia) and xerostomia have been described in the literature. Also, symptomatic diabetic subjects were more likely to be female. However, it is not yet clarified if the greater susceptibility of diabetics to oral complaints is linked to gender or metabolic control of the disease. This study sought to determine oral complaints in patients with diabetes mellitus type 2 in relation to glycemic control and gender.
Materials and methods: Ninety two diabetic patients (56 female and 36 male) diagnosed with diabetes mellitus type 2 were randomly selected from Endocrinology Department of Clinical Centre of the University of East Sarajevo. Each subject completed questionnaire concerning burning mouth sensations (stomatodynia, stomatopyrosis, glossodynia, and glossopyrosis), taste

impairment and xerostomia. The results were analysed according to glycosylated haemoglobin (HbA1c) (well controlled diabetes HbA1c<9%, and poorly controlled diabetes HbA1c≥9%) and gender.
Results: Xerostomia was the prevalent oral complaint, observed in 65.4% of diabetic patients with good glycemic control, and in 87.5% of patients with poor glycemic control. Considering the difference in oral sensations in relation to glycemic control significant difference was observed for xerostomia only (p=0.017). Although not meeting the statistical significance, taste impairment was higher in patients with increased HbA1c values. With respect to gender, women showed higher prevalence of xerostomia and burning mouth sensations, but observed the difference was not statistically significant.
Conclusions: It was found that sensation of xerostomia in diabetic patients is influenced by the level of HbA1c, while taste impairment may be linked to glycemic control. Diabetic females could be more susceptible to symptoms such as xerostomia and burning sensations.

Keywords: diabetes mellitus, gender, metabolic control, oral complaints

16. BODY-MASS INDEX AND ORAL HEALTH

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FYROM

Obesity has been implicated as a risk factor for several chronic health conditions. Recent studies have reported a relationship between obesity and periodontal disease.
The purpose of the present study was to investigate the relationship between body mass index and oral health among students of dentistry.
Materials and methods: We choose our students as a target group mainly because they are expected to have relatively same oral hygiene habits and to exclude age differences. Medical and oral health data, nutritional habits, weight and height were collected during a period of 5 years. 631 students aged 21-24 were examined and gingival bleeding, probing depth, plaque index, gingival inflammation were noted for each of our subjects. Body mass index was calculated for each of them. According to the results we divided our subjects into two groups. Control group with normal body mass index and investigated group with higher values for body mass index. Clinical parameters were compared between the groups.
Results: 54 of the students had higher body mass index and also showed higher values for bleeding on probing and gingival inflammation. No significant difference was found for plague and attachment loss.

Keywords: body mass index, oral health, gingival inflammation

17. POSSIBLE THERAPIES FOR THE PATIENTS WITH DRUGS INDICATED GINGIVAL OVERGROWTH

Perkovska Mirjana

Drugs of the group of hydantoin, cyclosporine, antihypertensives drugs especially the calcium channel blockers etc, indicate the overgrowth of the gingiva if they are used for a longer period. The pathogenesis mechanism of the gingival overgrowth is not yet enough explained. The gingival overgrowth infringe the aesthetic appearance of the person and even more the creation of places of retention for accumulation of the dental plaque, the initiation and progression of the periodontal disease.
The aim of this study is to show some possible therapies for the removal of the gingival overgrowth by ours cases reports. All the patients have been educated for adequate oral hygiene. Usually, a person eats three times a day and leaves behind lot of food which represent matrix for the creation of dental plaque. The nature created the human with bacteria always present in the oral cavity. When the person does not pay attention and does not remove the plaque every day, the trouble begins. We start the treatment of periodontal disease with a removal of supra-gingival calculus. Then we continue by the surgical procedures known as root planing and scaling. These procedures debride calculus by mechanically scraping it from tooth surfaces. The first case was treated with gingivectomy, which is a classic surgical method. The second case was treated with the application of thermocauter. And the third case was treated with laser as the method the most modern. Finally, which method will be applied is arranged with a discussion between the patient and the dentist.

Keywords: gingival overgrowth, gingivectomy, thermocauter, laser

18. THE EFFECTS OF CYCLOSPORIN AND TACROLIMUS ON THE RAT GINGIVAL TISSUES AND RAT WEIGHT

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Turkey

Background: The aim of this study was to evaluate histologic alterations of gingiva and body weight of rats treated daily with 10 mg/kg Cyclosporin A and 1,5 mg/kg takrolimus for 30 days.
Cyclosporin A and Takrolimus are immunosupressive drugs which are freguently used in organ transplantation. CsA can cause various side effects including gingival overgrowth. However, it has unfavorable effects on kidney, liver and bone healing. 50 Spargue Dawley male rats were used in our study. Animals were divided into six main groups respectively**:** control 15, control 30, CsA 15, CsA 30, takrolimus 15, takrolimus 30. All experimental groups recived 10 mg/kg/day CsA and 1,5 mg/kg takrolimus via subcutan injection. All main group were sacrificed at 16th, 31th days respectively. At this time all rats were weighed. Right segment of the mandible were

processed for rutine histologic observation.
Results: Acording to our findings, there were diferences in weight levels between groups on 16th and 31th days, which was statistically significant. In CsA administered group, weight levels were significantly less than other groups. On the other hand,in CsA adminestered group,histologic differences were found different from other groups.The developed gingival overgrowth in this group increased relating to the height and width of the connective tissue and the increase of the thickness of the ephitelium. The density of fibroblasts and collagen fibers also increased.

Keywords: CsA, Takrolimus, gingival enlargement

19. ORAL AND PARODONTAL CHANGES IN PATIENTS WITH KIDNEY DISEASES

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FYROM

Objective: To record the oral and periodontal clinical signs, symptoms and lesions in patients with chronic renal failure and transplant patients. At the same time to discover eventually connection between the diagnosis of disease and clinical oral and perioodontal changes in the oral cavity.
Materials and methods: of work**:** achieving the goal set at the Clinic of Nephrology and the Clinic for diseases of the mouth and paradont a total number of 35 patients were followed, of whom 20 patients with chronic renal failure undergoing hemodialysis and 15 transplant patients which in therapy received cyclosporine from 75-125 mgr. daily. In all of them are noted oral and perioodontal symptoms and lesions by clinical examination t.e.determaililng the index of dental plac according to Silness-Loe, index of the depth periodontal pocket according to Ramfjord and index of gingival inflammation according to Cowell. Part of the changes related to alveolar bone is noted through analysis of X-ray shots (RTG-dental status). All obtained results are statistically processed and presented in tables and graphics.
Results: In subjects with chronic renal failure oral symptoms and signs which are registered are unpleasant smell and taste of the mouth, white layer formations, stomatitis uremica and xerostomia. Parodontal findings indicated moderate gingival inflammation, recession to 2 mm and depth of paradontal pockets to 4 mm. Parodontal findings in patients receiving cyclosporine therapy in the present suggested strongly expressed fibrimatosis gingival reaction and presence of deep pseudoparodontal pockets. Periodontal pockets reach a depth exceeding 5 mm, and the recession more than 3 mm. The teeth were moderately dislocated. Gingival bleeding was provoked by weak intensity. Candidiasis, dry and cracked lips, streaked oral language is the most common clinical finding in the examined group. Loss of the trabecular and spreading intertrabeculars spaces, slimness of the lamina Durham and present phenomenon of milk glass was recorded by both groups with visible prevalence in subjects with chronic renal failure.
Conclusions: Strongly appointed oral changes in patients with chronic renal failure due to the high concentration of urinal acid in saliva, microcrystalline created which irritate the lining epithelium and slow function of salivary glands. In contrast, recorded expressed fibromatosis gingival reaction in transplanted patients is a consequence of ordinated ciklosporin therapy. Deep pseudoparadontal pockets exacerbate oral hygiene and caused progressive destruction of parodontal apparatus which complicates parodontal findings in the examined group.

Keywords: chronic renal failure, hemodialysis, renal transplantation, cyclosporine, oral findings and findings and parodontal findings

20. IRRITATION FIBROMA: TWO CASE REPORTS

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Turkey

An irritation fibroma is a benign proliferation that occurs as a response to local irritation. It is an elevated pedunculated or sessile lesion that ranges in size from a few millimeters to a few centimeters. Fibromas are inflammatory enlargements arising from gingival connective tissues or periodontal ligament, they may appear to be more pale than the oral mucosa. After the surgical excision patients must be followed by dentists because of high risk of recurrence. This report presents treatment, histopathologic features and 1 year follow up of 2 irritational fibroma patients.

Keywords: irritation fibroma

21. PGE2 - A POTENT INFLAMMATORY MEDIATOR IN PERIODONTITIS AND CORONARY ARTERY DISEASE

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FYROM

PgE2 is a member of the family of prostaglandins, involved in processes witch effectuated with vascular dilatation, enhanced vascular permeability, and accentuated leukocyte migration and amplification of effects of another inflammatory mediators like cinins, serotonin and histamine. However, PgE2 has especially emphasized role in term of periodontal tissue complex, on alveolar bone, expressed by promoting osteoclasts bone resorption. PgE2 as exposed inflammatory mediator, whose level, multiple increases in conditions of inflammatory processes present in periodontal infection, was one of the targets of our study to establish the thesis if the local persistent infection can affect the systemic levels of inflammatory mediators. Pointing out the relationship between oral infections and systemic diseases, especially coronary artery disease, in the last decade, was a

milestone that has aroused the interest of many dentists in the direction of more engaged unveiling this connection. For this purpose, a study was designed to determine the values of PgE2 in plasma and gingival fluid, and periodontal status in patients with acute myocardial infarction and adult periodontitis. All the patients whose number was 40, were divided into two groups, the first group with acute myocardial infarction and periodontitis (non aspirin users) and another group of patients with periodontal disease (also non aspirin users). Periodontal index values were noted for each patient, as well as level of PgE2 in plasma and gingival crevicular fluid in both groups. The obtained results indicated significantly higher values of PgE2 in plasma and gingival fluid, in both groups of patients examined, with PgE2 plasma values were higher in the first group, while PgE2 levels in gingival fluid were higher in the second group of respondents. Periodontal index status indicated the presence of a moderate form of the disease in both groups, with loss of attachment of the second degree. The values that we received in our survey, confirm the thesis that existing localized infection can affect the level of systemic mediators such as PgE2.

22. ISOLATED GINGIVAL RECESSION TREATMENT WITH LATERALLY POSITIONED FLAP TECHNIQUE - CASE REPORT

Sadiye Coskuner, Nilgun Ozlem Alptekin
Turkey

Introduction: Gingival recession is defined as the displacement of the soft tissue margin, apical to the cement-enamel junction, and its coverage is one of the most challenging procedures in periodontology. Gingival recessions are anatomic, developmental or traumatic deformities that can occur in individuals whose oral hygiene level are either high or low; due to high frenulum attachments and individual habits that can traumatize gingival tissues. Periodontal plastic surgery techniques aim to reach the ideal result by root coverage and at the same time enlarging attached gingiva. There are many surgical techniques serving this purpose. In this case report, we describe the application of laterally positioned flap technique to treat a Miller Class II gingival recession localized in the lower anterior region.
Case report: A 29 years-old female patient applied to Selcuk University Department of Periodontology with gingival bleeding and gingival recession complaint. The etiology of the gingival recession was protrusive movement caused by chronic oclusal trauma. After clinical and radiographic examination, height and width of gingival recession, probing attachment level, probing pocket depth and size of keratinized tissue were measured. Following initial periodontal treatment and elimination of etiology, laterally positioned flap technique is presented in order to close the 5 mm gingival recession on the lower right central incisor. The short term result of the 3-month period show that appropriate attached gingiva that could prevent mucogingival stress and facilitate oral hygiene was formed as well as it was observed that the root surface was completely covered.
Conclusions: In this case report, we observed that laterally positioned flap can be used for rehabilitation of advanced mucogingival problems. Furthermore, the flap immobilization is one of the important factors that affect success of surgery.

Keywords: Gingival recession, plastic surgery,root coverage

23. APOPTOSIS AND GINGIVAL OVERGROWTH

Kristina Mitic, Mirjana Popovska
FYROM

Introduction: The exact mechanism of cyclosprorin - induced gingival overgrowth (GO), is still unknown. The process of apoptosis plays an important role in the regulation of gingival homeostasis via regulation of inflammation and the host immune response.
The aim of this study was to compare the level of apoptosis in gingival samples from CsA-treated renal transplant patients with findings in control with periodontal disease.
Materials and methods: Gingival specimens were collected from 64 kidney-transplant patients, divided into four subgroups depending on the daily dosage of cyclosporin (100mg,125mg,150mg and175mg) and also the control group consisted of 21 patients clinically diagnosed with periodontal disease, who were not treated with any of the medicament that causes gingival overgrowth.
Clinical findings (plaque index (PI), gingival inflammation index (GI), probing depth index) were compared in the four subgroups and also in the two main groups. Histological features were compared and levels of expression of apoptotic cells were graded in a semi-quantitative fashion, using a scale of 0 to 3+.
Results: A statistically significant difference was detected in the controlled group and subgroup treated with 175 mg dosage for the PI. Concerning the GI, there was a statistically significant difference between the first and fourth subgroup, as well as the second and fourth subgroup. As for the controlled group, there was a statistically significant difference only among the second and third subgroup. The probing depth is statistically significant within the controlled and the subgroups treated with 150 and 175 mg ($p=0,00$). A significant increase of the apoptotic processes was registered with patients treated with the highest dose of cyclosporin – 175 mg, compared to the other subgroups and the controlled group ($p<0,01$).The apoptotic index was not correlated with any of the clinical parameters ($p>0,05$).
Conclusions: We believe that the increased apoptosis is a result of dental plague, inflammation and periodontal desease, rather than a cause of it. Increased gingival tisssues at patients treated with different doses of cyclosporin are largely due to preliferative rather than apoptotic processes.

Keywords: apoptosis, gingival, overgrowth, cyclosporin, gingival inflammation

24. ASSESSMENT OF PLASMA INFLAMMATORY MARKERS IN PATIENTS WITH SEVERE PERIODONTITIS AND TRANSITORY ISCHEMIC ACCIDENTS

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Romania

The aim of this study was to evaluate the level of serum proinflammatory cytokines such as**:** Il-2, Il-6, C-reactive protein (CRP) in patients with severe periodontitis and transitory ischemic accidents compared to a group of patients with transitory ischemic accidents and without periodontal disease.
Materials and methods: We included in our study 74 patients aged between 20 and 50 years old, grouped in two lots**:** a lot of patients with transitory ischemic accidents and periodontal disease (32 patients) and a lot of patients with severe periodontitis and ischemic accidents (42 patients). Clinical and radiological periodontal examination was performed to all patients and blood samples were collected for the determination of the proinflammatory cytokines mentioned above.
Results: We observed a statistically significant increase of IL-2, IL-6 and CRP in patients with severe periodontal disease and transitory ischemic accidents compared to the group of patients without periodontitis, but who have suffered ischemic accidents.
Conclusions: The significant increase of IL-2, IL-6 and CRP in patients with severe periodontitis and transitory ischemic accidents confirm the influence the severe periodontits has on transitory ischemic accidents.

Keywords: severe periodontitis, CRP, IL-2, IL-6, transitory ischemic accidents

25. COMPLEX ODONTOMA ON MAXILLARY CENTRAL INCISOR

Merve Alayli, Fatma Böke
Turkey

Introduction: Odontomas are slow-growing asymptomatic, most commonly seen benign odontogenic tumors of the jaws.They develop from epithelial and mesenchymal components of dental apparatus and producing enamel and dentin.They can found anywhere in the mandible and maxilla, they usually are conjunction with primary teeth and frequently inhibit the eruption of adjacent teeth.Odontomas are classified as complex,comppund and cystic.Complex odontomas appear as a irregular calcified masses on radiographs and they are no similar to teeth.They are commonly seen on molar region.
Case report: A twenty-year-old young woman came to the Periodontology Department of Ankara University Dental Faculty with a complaint of gingival enlargement on maxillary left central incisor.At the clinical examination on the vestibular side of this teeth a rigid and fibrous gingival enlargement was seen.To make the surgical treatment and esthetic restoration the first surgery gingivectomy was maked.During the surgery it was noticed the gingival enlargement contained a hard tissue.For this hard tissue can be seen clearly the mucoperiosteal flep was elevated.This amorf mass was excised. The histological diagnosis was complex odontoma.We can not achieve the aesthetic results with the first surgery so we were needed to make the second surgery.
Conclusions: Complex odontoma usually seen on mandibular molar region.It usually been a connective tissue capsule between teeth and odontoma.But in this case the odontoma fused to the permanent maxillary central incisor and so it required surgical seperation. Because the first surgery we was not achieved good esthetic results, we was need the second gingival surgery.

Keywords: complex odontoma, maxillary central incisor, gingival enlargement

26. EFFECTS OF ANTIBIOTIC TREATMENT ON MATRIX REMODELING IN CHRONIC PERIODONTITIS

Marilena Bataiosu, Petra Surlin, Oana Diaconu, Mihaela Tuculina, Monica Banita, Catalina Pisoschi
Romania

Introduction: Periodontal disease is initiated by a microbial biofilm that induces a cascade of hosts' inflammatory events leading to the destruction of the teeth supporting tissue.
Pro-inflammatory cytokines produced stimulate matrix metalloproteinases production known to be central mediators of the pathologic destruction in periodontitis. As it is known, transforming growth factor β (TGF-β) is associated with the inflammatory response, is involved in wound healing and fibrosis. Correlations between tissue degradation and MMPs/cytokines have been investigated intensively in periodontal diseases but no in relation with antibiotic treatment. The aim of the present study was to assess the influence of several antibiotics used for the treatment of periodontitis on TGF-β1 expression and consequently its effect on the balance between MMP-2 and TIMP-2 activity.
Materials and methods: Gingival samples obtained from patients with untreated chronic periodontitis and those receiving either the association between amoxicillin-methotrexate or spyramicin-methotrexate were processed for paraffin embedding and used for immunohistochemical reactions in order to detect TGF-β1, MMP-2 and TIMP-2 using avidin-biotin-peroxidase and EnVision techniques.
Results: TGF- β1 positive reaction displayed different pattern between the groups included**:** in untreated periodontitis the positivity was increased in keratinocytes from the deep layers and in fibroblasts, inflammatory cells and some endothelial cells from the lamina propria. The positive reaction in both epithelial and connective cells was decreased in gingiva treated with both associations of

antibiotics. In untreated gingiva was noticed a diffuse positive reaction for MMP-2 in the epithelium and in fibroblasts and macrophages from the lamina propria. In gingiva samples treated with antibiotics the positive reaction was restricted to deep epithelial layers and few cells from the connective tissue. No significant difference was observed for TIMP-2 expression.
Conclusions: The antibiotics used to treat periodontitis appear to have a dual ability to reduce inflammation as well as to inhibit MMP-2 activity.

Keywords: periodontal disease, inflammatory response, matrix metalloproteinases, transforming growth factor

27. ASSESSMENT OF PROFIBROGENIC GROWTH FACTORS IN DIABETES MELLITUS GINGIVAL OVERGROWTH

Mihaela Tuculina, Camelia Stanciulescu, Cristina Munteanu, Monica Banita, Catalina Pisoschi
Romania

Background. Gingival overgrowth was reported to arise as a complication of several systemic diseases, such diabetes mellitus. Epithelial enlargement and excessive storage of extracellular matrix due to an altered balance between its synthesis and degradation are unspecific features for this condition. TGF-β1 is an important mediator of tissue fibrosis which acts through several mechanisms leading to an overload of extracellular matrix constituents. The aim of this study was to assess the pro-fibrogenic pathways mediated by TGF- β1 and CTGF in gingival overgrowth associated with diabetes mellitus.
Materials and methods: Gingival samples obtained from patients with gingival overgrowth associated to type II diabetes mellitus were processed for paraffin embedding and used for immunohistochemical reactions in order to detect TGF- β1, CTGF, MMP-2, TIMP-2 and α-SMA using avidin-biotin-peroxidase and EnVision techniques.
Results: TGF-β1 positive reaction was present in the basal epithelial layer and in the lamina propria (in proinflammatory cells infiltrated in the fibrotic areas). CTGF displayed a graded positivity in fibroblasts and endothelial cells from the lamina propria and also in the basal epithelial layers. An intense positive reaction for MMP-2 was noted in the epithelium meanwhile areas of TIMP-2 positive cells were present in the epithelium and a lot of TIMP-2 positive proinflammatory cells and few fibroblasts in the lamina propria. The positive reaction for α-SMA was observed in some fibroblast-like mesenchymal cells, namely myofibroblasts, distributed as cellular foci between the collagen bundles.
Conclusions: Immunohistochemistry revealed that a response to TGF-β1 effects was the increased number of α-SMA positive fibroblasts and the intense expression of CTGF leading to excessive extracellular matrix storage. The imbalance between MMP-2 and TIMP-2 actions proves a significant inhibition of collagen breakdown and could contribute to the gingival enlargement in diabetes mellitus.
* This work was financially supported by the National University Research Council, Contract No. 1137/2009.

Keywords: gingival overgrowth, diabetes mellitus, profibrogenic growth factors

28. PARODONTAL AND ORTHODONTIC TREATMENT OF PERIODONTALLY COMPROMISED MALPOSITIONED TEETH

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Romania

Introduction: With adequate combined periodontal-orthodontic treatment it is possible to re-establish a healthy and well-functioning dentition. However, while orthodontic treatment can realign periodontally affected teeth, esthetic appearance may be compromised by gingival recession due to alveolar bone dehiscences or fenestrations. This article reports an interdisciplinary (periodontic, orthodontic, restorative) approach for the treatment of a periodontally compromised patient with dental malalignment. Periodontal therapy, including periodontal plastic surgery to obtain root coverage as well as orthodontic treatment were used to achieve stable periodontal conditions and successful esthetic and functional final results.
Case Report
A 53 year old, healthy, nonsmoking male presented bleeding gums and increased crowding of the mandibular and maxillary teeth. The patient had no history of periodontal treatment. A periodontal examination was performed including assessment of pocket probing depths (PPD), clinical attachment levels (CAL), bleeding on probing (BOP) and plaque index (Loe-Silness). Generalized pocket depths ranging from 5 to 8 mm and gingival recession ≤3 mm were present throughout the dentition. The measurements for PPD and CAL were performed at six sites per tooth. The patient presented Angle Class II molar relationship bilaterally for the first molars and canines. Before starting orthodontic treatment, the patient received initial periodontal therapy.
Conclusions: The key element in the orthodontic management of adult patients with periodontal disease is to eliminate plaque accumulation and gingival inflammation. Because retention and stability of orthodontic treatment requires greater consideration in periodontally compromised patients a long-term lingual-bonded wire retention was applied in the upper and lower arch. In conclusion, the treatment that involved nonsurgical periodontal therapy, orthodontic tooth movement, periodontal plastic surgery, and final restorative treatment resulted in significant functional, esthetic and periodontal improvements.

Keywords: Orthodontic, Periodontal disease,periodontal examination

29. MMP-9 IN GINGIVAL FLUID AND

HYPERTROPHIC GINGIVA DURING ORTHODONTIC TREATMENT

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România

Introduction: The role of MMP-9 in periodontal remodeling during orthodontic teeth movement is known but not clarified in cases with gingival hypertrophy. We studied the correlations between levels of MMP9 in gingival crevicular fluid and in the hypertrophic gingiva during orthodontic fixed treatment. This study was funded from a research grant of Ministry of Education in Romania, IDEAS competition 2008, ID573.
Materials and methods: 16 patients with fixed orthodontic appliances (9 Women, 7 Men aged 14-27 years). We obtained GCF samples of all four canines at 1 hour before the application of the orthodontic forces and 1 hour after, 4 hours, 8 hours,24 hours and each week after the treatment until 8 weeks. If gingival hypertrophy appeared we performed gingivectomy. At each presentation we determined the levels of MMP-9 in GCF and we calculated the periodontal indexes. In the hypertrophic gingiva we determined the expression of MMP9. Correlations between levels of MMP9 in GCF and in hypertrophic gingiva were studied using statistical tests. We also compared levels of MMP9 in patients with gingival hypertrophy and without hypertrophy (control group).
Results: we found an increase of MMP9 levels in GCF in all cases started 1hour after application of orthodontic forces with a maximum value at 6 hours and a decrease after. 6 patients (2 W, 4M) presented a hypertrophy of the gingiva between the 3rd and the 6th week. In those patients, the level of MMP9 in GCF continued to increase even after 6 hours after the application of orthodontic forces in correlation with high levels of MMP9 in hypertrophic gingiva.
Conclusions: the results suggest that collagen metabolism and the remodeling processes are very intense and the role of MMP9 is very important

Keywords: MMP9, orthodontic treatment, gingival crevicular fluid, gingival hypertrophy

30. DIAGNOSTIC RELEVANCE OF CT EXAMINATION IN EVALUATION OF THE ENDO-PERIODONTAL SYNDROME

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Romania

The aims: CT enables periapical disease and endo-periodontal syndrome to be evidenced by radiolucent changes at the root apex earlier than on conventional radiographs.
Material and methods: In a group of 36 patients with endo-periodontal lesions we used for diagnostic the cone-beam computed tomography (CBCT) with a flat-panel detector in comparison with the standard retro-dental radiographs. Only one CT and one retro-dental radiograph were realized in every patient.
Results: 18.4% of the endo-periodontal lesions were not detectable on standard retro-dental radiographs, being only observed through the cone-beam CT. While the standard retro-dental radiographs revealed 47% of the endo-periodontal lesions to be of true combined nature, the cone-beam CT discriminated only 21.2% belonging to that category, 37.6% having as primary source a periapical lesion and 41.2% having as primary source a periodontal lesion.
Conclusion: Crucially, essential information of the three-dimensional anatomy of the tooth/teeth and periodontal tissue anatomy is visible, even with the best intentions and paralleling techniques.

Keywords: endo-periodontal syndrome, CT, diagnostic

31. PREGNANCY EPULIS: A CASE REPORT

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Romania

Introduction: Due to the changes brought about by pregnancy, pregnant women are prone to oral health problems. Hormonal changes during pregnancy can lead to a series of transformations at the level of the gums, for example, gum hypertrophy. This can take the form of a tumour-like growth (localized hyperplasic lesions of the gingiva or epulis) and disappears spontaneously after delivery.
Case report: A 33-week pregnant woman, with a twin pregnancy following in-vitro fertilization, presents with a tumour-like growth at the level of the alveolar apophysis, upper right hemi arcade, which surrounds the first premolar and infiltrated the maxilla. Its surface is red, irregular and bleeds at touch. Clinically it is a well-circumscribed polylobed growth . It is implanted between two teeth, and it covers two teeth. It's growing has been a fast one; it is tender, sessile and located in the anterior part of the upper jaw, on the vestibular and palatal area The area is red, irregular and bleeds at touch. It co-exists with a gingivitis gravidarum, and plaque on the neighboring teeth.
Under local anaesthesia, the ablation of the tumoral mass, which is heavily bleeding, is performed with a bipolar electrocautery, and it is sent to histopathological examination.
The result is an epithelialised chronic inflammatory granuloma- papulosquamous epithelium with hypekeratosis. It presents areas with an aspect of cavernous haemangioma in stroma.
Three weeks postpartum, the area of infiltration totally recedes.
Conclusions: During pregnancy, localised or generalised gingival hypertrophies may appear as a result of hormonal transformations.
Pregnacy epulis recedes spontaneously post partum without any therapeutic intervention.
If the localised gingival hyperplasia becomes annoying to the woman, it can be surgically removed during

pregnancy.

Keywords: localised hyperplasic gingivitis, pregnancy, postpartum remission

Pedodontics / Orthodontics

1. DENTAL TRAUMA MANAGEMENT AWARENESS OF PRIMARY-SCHOOL TEACHERS IN KADIKOY, ISTANBUL

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Turkey

Introduction: Dental injuries are very common at the accidents in schools. The purpose of this study was to assess the knowledge of primary school teachers about the emergency management of dental trauma. The study was conducted at primary public schools in Kadikoy region of Istanbul in Turkey.
Materials and methods: Primary-school teachers from the public schools in Kadikoy region of Istanbul in Turkey were the target population. Questionnaires were used to survey teachers' backgrounds and knowledge of management of dental injuries. The questionnaire was divided into three parts. Part 1 consisted of questions on personal and professional profile of the respondents. The second part of the questionnaire was concerned with the immediate management of 4 imaginary cases of dental injuries. The third part aimed at the self assessed knowledge on dental trauma emergency management.
Results: A total of 426 teachers from 41 schools responded the questionnaire. From the total of 426 teachers, 236 had received first aid training and only 10 of them had received dental first aid training. 88.2% responded correctly by sending the child to the hospital immediately after loss of consciousness. 56.5 percent gave the correct answer to the immediate emergency management of broken incisor of an 8 year old girl. 56.3% of the respondents chose to do the wrong action which was to concentrate on stopping oral bleeding and sending the child home in the avulsion case. Only 30% gave the correct answer for the transporting liquid of an avulsed tooth.
Conclusions: The present study showed that the level of dental trauma management knowledge in a group of primary-school teachers in Kadikoy region is inadequate. Educational programs to improve the knowledge and awareness of teachers who are the first line of advance in case of dental injuries in schools will be helpful.

Keywords: Dental trauma management teachers

2. INTERRELATION OF CLINICAL AND BIOCHEMICAL PARAMETERS IN CHILDREN WITH GINGIVITIS DURING COMPLEX ANTIHOMOTOXIC THERAPY

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Moldavia

Introduction: Inflammation of oral tissues is a currently imperative problem in dentistry. Inflammation is an activating factor of peroxide oxidation of lipids (POL) in oral tissues and metabolic disturbances. The antihomotoxic (homeopathic) preparations may be recommended to solve the problem of metabolic disturbances and used for oral application. Traumeel, Coenzyme compositum, Lymphomyosot are substances with protective, antioxidant, antitoxic and anti-allergic properties. Usage of these preparations is based on their composition, properties, and possibility for using in oral application. Salivary components reflect of the patients' metabolic state and have diagnostic means in the patients with oral tissues inflammation.
Materials and methods: Twenty-four patients-children (12 years) with mild gingivitis and twenty healthy children participated in the study during 7 days of treatment with traditional therapy (Metrogyl-denta gel) and complex antihomotoxic therapy, including Traumeel S ointment, Coenzyme compositum, Lymphomyosot (Heel GmbH, Germany). The clinical effects estimated with hygiene index (HI), PMA and Shiller-Pisarev test (SPT). In saliva were determined the contents of antioxidant glutathione (GSH), proline, thiocyanate (SCN), and protein. The results were statistically analyzed, and Spirmean's method of correlation was used for examination of interrelation between the clinical and salivary indexes.
Results: The more positive effect of treatment became evident in patients treated with the complex therapy displayed a significant decrease in symptoms (hyperemia, pain, infiltration). On the 8th day of traditional therapy PMA decreased in 3.1 times, and of complex therapy – in 4.6 times. In the patients treated traditionally HI decreased from 1.67 to 0.52, and with complex therapy - from 1.33 to 0.26. During traditional therapy SPT decreased from1.66 to 0.6; and complex therapy – from 1.43 to 0.25. Before treatment in the saliva contents of glutathione, proline and thiocyanate were decreased, and protein was increased. After the therapy courses contents of GSH, proline and thiocyanate increased, and protein – decreased. Correlation Spirmean's analysis indicated a positive interrelation between GSH and PMA before and after treatment. Interrelation between PMA and proline before treatment was destroyed ($p>0.05$), in a week this interrelation was strong positive. A strong positive correlation between PMA and SCN was indicated only after complex therapy.
Conclusions: Complex therapy, which included antihomotoxic preparations, was more effective than the traditional one. This fact was confirmed by the dynamics of indexes (HI, PMA, SPT) and the salivary indices, more effective reduction of inflammation period and positive improvement of patients' health status.

Keywords: Gingivitis, glutathione, proline, Coenzyme compositum, Lymphomyosot, Traumeel S

3. EFFECT OF ORTHODONTIC TREATMENT ON ROOT SHAPE IN ENDODONTICALLY TREATED INCISORS

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FYROM

Aim**:** To evaluate the clinical changes of root shape after orthodontic treatment among root endodontically treated incisors.
Materials and methods: 23 orthodontic patients were selected who had an incisor treated endodontically before orthodontic movement and a vital homologous tooth as a control. Before and after orthodontic treatment the panoramic radiographs were examined.Measurements were made by comparing the root resorption score tacken before and after orthodontic treatment. Result**:** 1.there was no statistically significant difference in apical root resorption between endodontically treated teeth and control teeth. 2. there was great statistically significant difference (0.001) in apical root resorption found after orthodontic treatment in the endodontically treated teeth compared to before initiation of orthodontic treatment. 3.no root resorption score up to 4 degrees was observed in selected cases.
Conclusions: Orthodontic treatment root resorption is common in endodontically treated incisors and natural incisors, there is no significant difference between them.

Keywords: root shape incisors, orthodontics treatment

4. THE EVALUATION OF GROWTH AND DEVELOPMENT IN SKELETAL CLASS 3 INDIVIDUALS CHARACTERIZED WITH MAXILLARY DEFICIENCY IN PREPUBERTAL PERIOD: SHORT-TERM EFFECTS

Sevil Akkaya, Berk Ozogul
Turkey

Introduction: The aim of this semilongitudinal cephalometric study was to analyze the craniofacial growth changes of untreated skeletal Class III subjects that were characterized by maxillary deficiency in prepubertal growth period.
SUBJECTS AND METHOD**:** Twenty-eight untreated skeletal Class III subjects (14 females,14 males; mean age 9.6 ± 1.1 years) formed the study group. Semilongitudinal records, including lateral and hand-wrist radiographs were obtained at the initiation and end (mean 0.75 ± 0.2 years)of control periods. Nineteen angular and twenty-seven dimensional parameters were analyzed on hand-traced radiographs by the same experienced researcher.Fifteen radiographs were reevaluated for method error.Intragroup differences were analyzed with paired sample t-tests.For further evaluation two subgroups were formed. The optimum angle group (mean 34,03°) consisted of fifteen subjects (8 females,7 males; mean age 9.83 ± 1.58 years)and the high angle group (mean 41,30°) consisted of thirteen subjects (6 females,7 males; mean age 9.33 ± 1.92 years) were compared with independent sample t-tests.
Results: Intragroup angular evaluations revealed a statistically significant increase in SNB angle (+0,339mm, SD ± 0,871).No significant difference was recorded in SNA angle.Mandibular skeletal dimensions (+0.051 mm, SD ± 1.013), posterior (+0.082 mm, SD ± 0.964) and anterior (+0.067mm, SD ± 0.935) facial heights increased significantly.Intergroup comparisons revealed a slight increase in gonial angle (+0.26 mm;,SD ± 0.90) in high angle group whereas a slight decrease (-0.50 mm,SD± 1.25) was determined in optimal angle group.In optimal angle group a more significant amount of lower molar mesialisation (+1.40mm, SD ± 1.46) and lower incisor proclination (+1.16 mm, SD± 1.06) were observed as compared to high angle group.
Conclusions: This study points out the importance of early treatment in high angle skeletal Class III patients.Future studies for evaluation of the effects of growth and development in different growth periods are also needed for efficient comparisons.

Keywords: Skeletal Class III, growth and development

5. PRELIMINARY CLINICAL STUDY ON INTRUSION OF OVERERUPTED MOLARS IN OPEN-BITE

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Turkey

Introduction: Anterior open-bite malocclusion is considered to be one of the most demanding challenges for the orthodontist. The aim of the study was to determine the dentofacial and clinical effects of molar intrusion with the removable molar intruder appliance (RMIA) and determine its clinical value.
Materials and methods: Eight patients (5 boys, 3 girls) in the early-permanent dentition period, with a mean age of 12±0.8years were selected in the study. All presented anterior open-bite malocclusions through the second premolars and mandibular plane angle was greater than 35°. The clinical effect of intrusion was evaluated on lateral cephalograms taken before (T1) and after (T2) molar intrusion; the root resorptions were accessed by periapical radiographs; the models and photographs of all patients were also obtained before and after molar intrusion. Mean changes for the measurements were evaluated by the paired-sample-t- test.
Results: Open-bite correction was achieved by counterclockwise rotation of the mandible as a consequence of intrusion of molars. All the overerupted molars had been intruded successfully within an average time of 4.6months. Molar intrusion was statistically significant for both maxillary and mandibular first molars. Pre/post-treatment radiographs and model analysis demonstrated the maximum intrusion amount was 3.16mm, minimum 1.28mm and mean 1.68mm. The mean intrusion of maxillary and mandibular molars was 2.06mm

and 1.34mm, respectively. Significant decreases were also noted for vertical skeletal characteristics. The mandibular plane angle decreased by 1.97°, the anterior face height decreased by 2.15mm and overbite increased by 4.86mm on average. Analysis of pre and post-treatment periapical radiographs showed no significant difference in root resorption.
Conclusions: The RMIA provided effective molar intrusion without root resorption and favorable dentofacial changes for open-bite treatment in patients in early-permanent dentition period. It was concluded that RMIA could be regarded as a safe and noncompliance alternative for simplifying further orthodontic treatment.

Keywords: Anterior open-bite, Molar intrusion, Removable appliance

6. EARLY CHILDHOOD CARIES – CONVENCIONAL TREATMENT WITH GLASS IONOMER CEMENTS

Sladjana Miljanovic, Predrag Trkulja, Verica Stefanov, Zoran Mandinic
Serbia

Introduction: Early childhood caries - ECC (formerly termed nursing bottle caries or baby bottle tooth decay) is diet induced disease, characterized by early onset and aggressive form of dental caries that begins on tooth surfaces which are usually not affected by decay, such as labial surfaces of maxillary incisor. It is results in functional, esthetic and psychological disturbances of the child, accompanied by great concern from the parents and the dentist. Because of the aggressive nature of ECC, treatment should be specific for each individual patient. Areas of decalcification and hypomineralisation can rapidly develop cavitations. At the most extreme of cases, ECC can also lead to rampant decay, infection, pain, abscesses, chewing problems, malnutrition, gastrointestinal disorders, and low self-esteem.
Materials and methods: Treatment plan is based on the child maturation to communicate with doctor and the cooperative behavior of patient as well as a parent. Glass-ionomer cements (GICs) are widely used in dentistry. The objective of this paper was to present possibilities of application glass- ionomer cements (GIC) in convencional treatment of early childhood caries. The significante properties of the glass-ionomer cements are good adhesion to tooth dentine and anamel, a simple to apply, long-term release fluoride, thermal compatibility with tooth anamel and biocompacibility. New generation of Glass-ionomer reinforced resin cement have improved mechanical and esthetic properties of the material and therefore GICs considered as a preferable material in pediatric dentistry.
Conclusions: The use of anticariogenic agents may reduce the risk of development and progression of caries. Interim therapeutic restoration, using materials such as glass ionomers that release fluoride, are efficacious in both preventive and therapeutic approaches.

Keywords: Early childhood caries, Glass-ionomer cements, treatment

7. DENTAL RESTORATIVE TREATMENTS IN A WOMAN WITH SEVERE IDIOPATHIC KYPHOSCOLIOSIS

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Turkey

Introduction: Kyphosis is the posteriorly convex curvature of the thorasic spine. Scoliosis is sideways curve of spine in antero-posterior plane. While patients with both problems are present in literature, their dental treatment was not mentioned.
Case report: In this case report, patient had both kyphosis and scoliosis. She had no respiratory or cardiac disorders and visual or hearing impairments, and had no prior history of seizures. After discussion, it was decided that her dental treatment would be best provided under general anesthesia because it could not be provided in the dental office setting, and she was not amenable to ambulatory dental treatment, because no suitable lodgings at which she could stay while receiving the required dental treatments at repeated treatment sessions.
Patient had been treated under general anesthesia for dental caries and/or excessive loss of the crown because of the caries when she was 13 years old. The entire operation took about 150 minutes to complete.
When she was 19-years-old, she again presented to the clinic because of her exacerbated dental problems. On examination, she had extensive hard tissue destruction, carious lesions of varying severity of teeth, root remnants, and a broken restoration on tooth. The patient was treated under general anesthesia.The entire operation took about 120 minutes to completed. In the first general anesthesia post-op fever and nausea were noted down. However, in the second general anesthesia post-op there was no any problem at all.
Conclusions: Patient with kyphoscoliosis treated under general anesthesia. The patient's satisfaction level was evaluated in terms of retention & stability, mastication, esthetics, phonetics and comfort level. For both each evaluation criterion ranged from excellent to good.

Keywords: kyphoscoliosis, general anesthesia

8. EFFECT OF VARIOUS TOOTHBRUSHES USED FOR MAINTAINING ORAL HYGIENE IN PATIENTS TREATED WITH FIXED ORTHODONTIC APPLIANCES

Svetlana Novakovic-Carevic, Zoran Mandinic, Bojan Škufca
Serbia

It is well known that orthodontic disorders can have serious influence on caries and periodontal diseases occurrence. Maintaining proper oral hygiene during

orthodontic treatment is essential for accomplishing satisfactory treatment results and overall improvement of oral health in patient under orthodontic treatment. The aim of this study was to evaluate the effect of various manual toothbrushes used for maintaining proper oral hygiene in patients with fixed orthodontic appliances. The efficiency of tree different manual toothbrushes in keeping proper oral hygiene during tree weeks observing period was examined in 30 patients, both sexes, age 12-19, undergo orthodontic treatment with fixed orthodontic appliances. Patients were advised to brush their teeth regularly twice a day with brushing technique of their own. During first week of examining period patients were told to brush their teeth with their oven toothbrushes, second week with Parodontax ® tooth brush and third week with Miradent® Alpha-ion III tooth brush. Using Miradent® – Plaque detection agent, tooth brushing effect after each week was evaluated by Green-Vermillion plaque accumulation index. Obtained results suggests that Miradent® Alpha-ion III tooth brush (PI = 1,18) was most effective in keeping satisfactory oral hygiene compared with Paradontax® (PI =1,58) and patient's ordinary personal tooth brushes (PI =2,623). Therefore it can be concluded that Miradent® Alpha-ion III tooth brush is most effective in maintaining satisfactory oral hygiene levels in patients treated with fixed orthodontic appliances.

This study is supported by grant of Ministry of Science and Technology, Republic of Serbia No. III 46009.

Keywords: tooth brushes, oral hygiene, orthodontic appliances

9. THE IMPORTANCE OF PULP THERAPY IN IMMATURE PERMANENT TEETH

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Albania

Aim: According to our previous study, early caries index in preschool children was very high in Albania, which is almost equal in permanent dentition. This study and supporting to traditional dental practice in Albania, which in general neglect or doesn't make a correct treatment in immature permanent teeth, we emphasize the importance of pulpal therapy in permanent teeth with undeveloped root. And this we have done by estimating the time, the methods and the ways of application of pulpal therapy, based on clinic practice in UFO University.
Matherial and method**:** We have considerated for reason of this study about 47 children of 6-12 years old, which are treated in Clinic of UFO University, for one year period. Gathering of evidence about the patients is done by cards and their radiography, and we have estimated only treatment of permanent teeth with undeveloped teeth. Then we have done statistic analise related to diagnosis, the way of treatment, involved the material, and the result of treatment.
Results: In 56 patients we have treated 67 immature permanent teeth, from which 30 with indirect covering, 17 with direct covering, 16 with pulpotomy (apeksogenesis) and 4 with pulpectomy (apeksifikim). According to our analises correct evaluation of diagnosis, treatment when this is neccessary, no massive filling and good health status and oral hygiene of children are great determinants of short- and long- period success of these kind of treatment.
Conclusions: The main objective in treatment of immature permanent teeth is maintaining of pulp vitality in order to reach the necessary length of root and to close the open apices. However, the dentist must be populated with treatment of immature permanent teeth and must be in contact regulary with last findings related with different matherials, which are used in these cases.

Keywords: caries, pulp therapy, immature permanent teeth

10. PRIMATE SPACES REPRESENTATION AT THE AGE OF PRESCHOOL CHILDREN WITH NORMAL OCCLUSION- LONGITUDINAL STUDY

Tatjana Tanic, Julija Radojicic, Jasmina Milic
Serbia

Primate spaces is anthropoid spaces in front of upper and behind lower canines. Their existence and size has been variable a great deal. The aim of study is a research of changes of their representation in the period from completion of their dentition (2.5 years old) to the beginning of the first tooth eruption (6 years old). The research has been done on 141 child with normal occlusion (65 girls and 76 boys). The children have been examined for the first time at the age of three, four, five, and the last time at the age of 6, through this the children who have been examined for the last time were eliminated, with which the change of teeth had already begun. The primate spaces existence has been verified especially in upper and lower jaw in the sense of their presence and absence. The results indicate that a large percentage of children in our climate have had primate spaces after dental arches' completion at the age of 3 and it was from 94.55% (with boys) to 95,56% (with girls) in upper jaw, while the percentage has been less in lower jaw from 84.09% (with girls) to 85.45% (with boys). Sex differences haven't been statistically significant. With the particular age, primate spaces representation has had a tendency to become bigger in upper jaw, through this sex differences haven't been significant. On the contrary, their existence has had a tendency to become less in lower jaw. Becoming of an existence in upper jaw, is explained by transversal development, and reducing of an existence percentage in lower jaw, by changing of postmolar (terminal) plane.

Keywords: primate spaces, primary dentition

11. APPLICATIONS OF DIRECT ADHESIVE RESTORATIONS AFTER ORTHODONTIC TREATMENT: INTERDISCIPLINARY APPROACH

*Cigdem Celik, Neslihan Arhun**Error! Bookmark not***

defined., *Yasemen Boncuk, Ömür Polat Özsoy, Alev Yilmaz, Koray I. Dogmus*
Turkey

Introduction: There is an increasing demand of improving dentofacial esthetics in population. For a dental profession, this demand usually requires a close collaboration within the disciplines of dentistry. Modern adhesive techniques are now used to add restorative materials to the tooth for the correction of unesthetic tooth forms, tooth positions, dimensions, colors, and to close diastemata, to build out peg-shaped laterals and to change the tooth form of elements with an abnormal anatomical position; and these materials offer the most conservative and minimally invasive techniques. This clinical presentation describes coordinated interdisciplinary evaluation and treatment of two esthetically compromised cases. **Case report:** In case 1, the female patient with 16 years and 5 months of chronological age had skeletal and dental class I relationsihip, decreased overbite and overjet. Her main complaint was an esthetic defect that resulted from diastema between upper canines and first premolars and peg-shaped lateral incisors. The treatment objectives were obtaining proper overjet and overbite relationship with levelling the upper and lower teeth, opening the space for a normal-sized lateral incisor, with fixed orthdontic treatment. peg-shaped laterals were build-up by direct adhesive technology. Case 2 describes the treatment of a 17-year-old boy with maxillary crowding and a left canine in vestibular position. He indicated Class II molar and canine relationship and showed 2.5-mm overjet, 5-mm overbite and slight lower midline deviation Treatment was started by extractions of maxillary first premolars and fixed appliances to solve maxillary crowding. Molars were finished in a Class II relationship with canine guidance, and ideal overjet and overbite relationships were established. The diastemeas between the lateral and santral incisors were closed with the aid of adhesive technology. **Conclusions:** These complementary orthodontic and restorative procedures successfully corrected the esthetic problem.

Keywords: anterior esthetics, orthodontic treatment, adhesive techniques

12. ALVEOLAR ARCH ASYMMETRIES IN ORTHODONTIC PACIENT

Daniela Anistoroaei, Loredana Golovcencu, Georgeta Zegan
Romania

Introduction: The lack of perfect symmetry of dentofacial complex is wellknown. The pacients with malocclusons tend to have more asymmetry. Early diagnosis and treatment of dento-alveolar arch asymmetries is very important because could minimize a late complex treatment.
Materials and methods: The aim of the study was to compare the degree of intra- and interarch dento-alveolar asymmetry among orthodontic patients. The sample comprised pretratament dental casts of 53 pacients, aged between 12 and 20 years who asked for orthodontic treatment. All subjects had no evidence of any syndrome, craniofacial malformation, or obvious facial asymmety. Landmarks (cusps of central incisors, premolars and molars) and maxillary and mandibular reference lines were constructed and used for transverse intraarch asymmetry measurements. Chi-square tests were computed to determine the interarch correlations.
Results: and Discussion**:** The asymmetries had similar manifestations in maxilla and mandible in the study group. Statistically significant correlations between measurements were obtained only in maxilla between premolar and molar landmarks (p - 0,000). In the study group the transversal asymmetries were similar at the different dental reference points, in maxilla and mandible; no statistically significant correlations were founded between studied dental landmarks which may incriminate the local influence to generate and compensate the intra-arch asymmetries.
Conclusions: For the study group, asymmetries in the transverse direction manifested similarly for different reference points, both in the maxillary and the mandible, without significantly similar associations between the majorities of the reference points used for measuring the asymmetries. This could mean local causes have a role in producing and compensating for inter-arch asymmetries

Keywords: alveolar arch, asymmetry, transverse plane

13. A CRITICAL EVALUATION OF META-ANALYSIS IN ORTHODONCYS

Snezana Raznatovic, Dzenad Ganjola

Introduction: The aim of this systematic review was to investigate the topics in orthodontics that currently provide the best evidence, as documented by meta-analyses, by critically evaluating and discussing the methodologies used in these studies.
Materials and methods: Several electronic databases were searched, and hand searching was also done to identify the corresponding meta-analysis studies dealing with orthodontic-related subjects. In total, 67 studies were retrieved initially. After applying specific inclusion criteria, 14 orthodontic-related articles were identified as meta-analyses.
Results: Many of these 14 articles followed appropriate meta-analytic approaches to quantitatively synthesize data and presented adequately supported evidence. However, the methodologies used in others had weaknesses, limitations, or deficiencies. Consequently, the topics in orthodontics that currently provide the best evidence, as documented by meta-analyses, include issues concerning maxillary protraction treatment, prevention of posterior crossbites, reliability of lateral cephalometric measurements, correlation between anterior tooth injuries and magnitude of overjet, correlation of external apical root resorption with treatment-related factors and type of tooth movement, and prevalence of tooth agenesis.

Conclusions: Currently, for only a few orthodontic topics is there adequately supported evidence. More well-conducted, high-quality studies are needed to produce strong evidence in orthodontics

Keywords: orthodontics, meta-analysis

14. MALOCCLUSION AND ITS IMPACT ON QUALITY OF LIFE OF SCHOOL CHILDREN

Olga Djuric, Dzenad Ganjola

Background**:** Malocclusion, though not life-threatening, is an important public health issue, which has a large impact on the individual, causing discomfort, social and functional limitations.
Objective: To evaluate objectively orthodontic treatment needs in Montenegrian schoolchildren and the impact of malocclusion on their quality of life.
Materials and methods: This cross-sectional study involved schoolchildren aged 12 to 16 years from four randomly selected secondary schools in Montenegro. A prestructured questionnaire was administered and a clinical examination was conducted. Occlusal status was assessed for each subject using the Dental Aesthetic Index (DAI). Oral Health Impact Profile-14 (OHIP- 14) was also evaluated.
Results: There were 410 (50.9%) females and 395 (49.1%) males aged 12 to 16 years. Mean age was 14.5±1.3 years. Irregularity of teeth was the most prevalent malocclusion. Generalised spacing and midline diastema were seen in 59% and 31% respectively; crowding in 43% of the schoolchildren. Other occlusal anomalies were recorded. There was no statistically significant difference between the sexes. Over one third of the study population did not need treatment, treatment was mandatory in 24.3%, elective in 21% and highly desirable in 17%. More females than males did not need orthodontic treatment. Oral conditions had no effect on the quality of life of 85.3% of the study sample.
Conclusions: Most Montenegrian schoolchildren were found to have a dental appearance that needed orthodontic treatment. However, components of the oral conditions impacted on the quality of life of a few subjects. Psycho-social need is very important in orthodontic diagnosis.

Keywords: malloclusion

15. THE RELEVANCE OF THE COMMUNITY COMPLIANCE IN STREAMLINING THE EDUCATION FOR CHILD ORAL HEALTH

Adam A. Maxim, Carmen Savin, Adriana Balan, Marinela Pasareanu, Vasilica Toma, Ana Petcu, Dana Cristiana Maxim, Veronica Serban
Romania

To educate an individual means to make that person a source of happiness for him and for society (I. Gavanescu). This study illustrates the strategy of a comprehensive program of education and pediatric dentistry prevention, program that was initiated in 2003 in Iasi area by the Department of Pediatric Dentistry, Faculty of Dental Medicine, Gr.T. Popa Iasi University of Medicine and Pharmacy; now, the program is effectively promoted in pediatric communities from urban, Iasi. Aim. Education, shaping and socialization of the child's oral health behavior, based on the socio-ecological and medical concept of the child's dental management at community level.
Materials and methods: The study was carried out on one mixed integrated longitudinal study, on a sample of 441 subjects (228 boys, 231 girls), aged between 3-11 y.o., from Iasi, Romania (2003-2007) and on one pilot study, on a sample of 360 subjects (181 boys, 179 girls), aged between3.6 – 7.5 y.o. from Iasi, Romania (2008 – 2009). The educational strategy was individualized depending on the psycho-mental specificity of the children and on the quality of children socialization. **Results:** The peer education model proved to be most efficient and effective at community level. **Conclusions:** The quality of the educational programs predict in emerging and compliant background (family – community - medical team) the life quality of child, parent (belonging adult) and future adult.

Keywords: child, oral health, education

16. POSTTRAUMATIC PULPO-PERIODONTAL COMPLICATIONS IN IMMATURE PERMANENT TEETH

Adriana Balan, Marinela Pasareanu, Ana Petcu, Vasilica Toma, Dana Cristiana Maxim, Doriana Forna, Gheorghe Balan
Romania

The management of dental trauma in children is complicated by the yet unerupted dentition, anxiety, growth considerations and also by the common association of closed head injuries that may delay definitive treatment. Therefore, dental trauma can be a tragic experience for a young patient and is a problem whose solutions require experience, judgment and skill.
Aim**:** The purpose of this study is to identify the possible complications relative to dental pulpo-periodontal trauma in immature permanent teeth.
Materials and methods: The case analysis was made during 2008-2009 on 66 subjects, 21 girls and 45 boys aged between 10.6-18.5 years old. The clinical and para clinical investigation performed by the Pediatric Dentistry Clinic of Iasi showed various clinical forms of pulpo-periodontal trauma with impact on the permanent teeth.
Discussion**:** It should be known that there are many inadequacies in the present methods of determining the initial pulpal reaction to an injury and of predicting the long range reaction of the pulp to the insult. The main reactions found to follow a dental trauma can be divided into**:** Pulpal hyperemia, Internal hemorrhage, Progressive canal calcification or dystrophic calcification, Internal resorption, External resorption, Pulpal necrosis and

Ankylosis. Teeth without associated periodontal injuries are followed by remarkably few complications using as treatment the composite with dental bonding. Complicated fractures treated with pulp capping and partial pulpotomy heal successfully in 90% of cases, whereas in about 80% of all root fracture teeth the pulp remains viable or becomes revascularized but necrosis is still the main obstacle to healing.
Conclusions: Complications are more frequent in penetrating coronal fractures, subluxations and intrusions. Optimal posttraumatical therapeutic management considerably reduces other complications but it is hard to predict accurately pulpo-periodontal complications because of the long follow-up period and the relatively reduced number of cases.

Keywords: trauma, complications, pedodontics

17. THE EFFECTIVENESS OF THE MONO BLOCK APPLIANCE IN COMPARE TO TWIN BLOCK APPLIANCE FOR CLASS II MALOCCLUSION

Ajshe Rexhep, Azem Ismani, Besfort Ahmeti, Sevdi Rexhepi, Arijeta Sllamniku
Turkey

Aim: The aim of this study was to compare the changes in the skeletal and dent alveolar structures in growing patients with Class II, division 1 malocclusion treated with mono block (MB) and Twin Block appliance.
A randomized clinical trial was carried out with a simple of 18 subjects randomly assigned to an active control group (TB) and experimental group (MB). Mean age was 11.5 years (SD=0.6) and 12.3 years (SD= 0.7) in MB and TB group. Lateral cephalometric analyses were performed before and 1 year after treatment.
Eleven angular and linear measurements were measured.
The changes during the study period were calculated by comparing pretreatment and post treatment measurement in each group.
Results: From this study we observed that there is a significant difference ($p<0.6$) in the OJ, OB, SNB, ANB, A—NPg with more favorable changes in TB group.
Conclusions: The mono block appliance is an effective appliance for treatment of Class II division 1 malocclusion but may indeed a longer treatment period then the Twin Block appliance.

Keywords: Mono block appliance, twin block appliance, function

18. CLINICAL EVALUATION OF THE STAINLESS STEEL CROWNS ON PRIMARY MOLAR TEETH WITHOUT AND WITH ENDODONTIC TREATMENT

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Turkey

Introduction: To evaluate both retentions and clinical views of SSCs and gingival tissues around the SSCs cemented on primary molar teeth without and with required endodontic treatments using different luting cementation materials.
Materials and methods: and subjects**:** A total of 290 SSCs were cemented on primary molar teeth [luting glass ionomer (GIC; N=176), luting resin modified glass ionomer (RMGIC; N=70), and resin cement (RS; N=44)]. Of 290 SSCs, 89 were cemented on teeth without endodontic treatment and 201 were cemented on teeth with endodontic treatments [pulpotomy (N=141 (Calcium Hydroxide=50; Formocrezol=46; Ferric Sulfate=45**)** and pulpectomy (N=60)]. The crowns were examined for both retention of the cement materials and clinical views of crowns for 12-27 (mean**:** 22.0±5.9 months) months. In addition, plaque index (PI), gingival index (GI), and sulcus depth (SD) of teeth with the SSCs were examined and recorded at 3, 6, 9, and 12 months after initial treatment. All data were analyzed at the 5% significance level.
Results: For retention of SSCs without and with endodontic treatment, there was no significant difference among the luting cement materials ($P>0.05$). The SSCs cemented with GIC, RMGIC, and RS had an average lifespan of 20.8, 24.3, and 23.5 months respectively. However, the statistical analysis revealed significant differences among the luting cement materials in terms of clinical views of the crowns ($P<0.05$). Although the PI, GI and SD were good, mild gingivitis, and physiological border respectively, a statistically significant difference was found for each of PI, GI, and SD criteria ($P<0.05$).
Conclusions: Luting GIC, luting RMGIC, and RS can be used for SSC cementation because of similar clinical success rates. The SSCs may not occur to pathological changes on gingival tissues.

Keywords: stainless steel crowns, primary molar teeth, endodontic treatment

19. CEPHALOMETRIC ANALYSIS OF THE UNILATERAL CLEFT LIP AND PALATE PATIENTS

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FYROM

Aim: The aim of this study was to analysis the craniofacial morphology difference between the Albanian cleft lip and palate (CLP) children and normal Albanian children (control) in Macedonia.
Material and method: Nine children (6 boys and 2 girls) with mean age of 10.1 years (SD+- 1.79) were compared with 9 control children (5 girls, 4 boys) who were matched for age (mean 9.5 years, SD +- 1.69) and sex.
12 linear and 9 angular variables were measured from lateral lateral radiographs. The date were analyzed using Kann- Whitney test.
Results: Compared with control group Albanian CLP showed a more retrognathic maxilla and normognathic mandible. The cranial base angulation was smaller in Albanian CLP and lower incisors was in retroinclination positioned. Bimaxillary retroinclination of the upper and

lower incisors. The upper lip was thinner. The soft tissue was concave. There were no significant difference of the maxillo mandibular planes.
Conclusions: Significant difference was found in the maxilla morphology, horizontal dimension where the maxilla of the Albanian CLP was more retrusive and shorter then that of the control group.

Keywords: cleft lip and palate

20. BIOETHICS AND MEDICAL RESPONSABILITY IN PEDIATRIC DENTISTRY

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Romania

Pediatric dentistry is an age-definded medical field providing both primary and comprehensive, preventive and therapeutic oral health care for infants, children and adolescents, including those with special needs. Therefore, there are many specific bioethical aspects that should characterize this medical act and the pediatric dental specialists' responsibility regarding his professional activity and expertise.
Aim: The primary purpose of this study is to encourage all those involved in pediatric oral health field to provide the highest possible level of care to children, both medically and bioethically. Secondary, we intend to inform about the main standards, guidelines or policies that legally govern the pediatric oral health provision.
Materials and methods: In order to reach the best level of understanding regarding ethics and responsibility in pediatric dentistry, we consider it necessary to follow a series of professional standards generally speaking – adapted and provided by various professional associations internationally. These are main ways of implementing professional disciplinary rules in order to achieve the best possible oral health care status.
Discussion: There are certain core values that should be reflected when reffering to medical responsability in pediatric dentistry, such as**:** Health and health care equity, An effective dental workforce, Effective public programs, Child oral health promotion, Child welfare, Special health care needs in children etc. Nevertheless, the clinical practice of pediatric dentistry must be coordinated by science and evidence-based medical rules. This is why clinical guidelines in pediatric dentistry, that are supported by the best available evidence, should be considered as main sources in establishing bioethical norms.
Conclusions: A responsible oral health care practitioner means better decisions and recommendations leading to a proper patient-adapted medical activity. Policies, Guidelines and Programes that promote optimal oral health care for infants and children through adolescence should be thoroughly advocated and well implemented in any oral health providing system.

Keywords: Pedodontics, Bioethics, Responsibility

21. DETERMINING THE TYPE OF PARENTS - THE ROAD TO SUCCESSFUL COOPERATION

Verica Stefanov, Panic Gordana

Aim: In spite of the regular and continuous use of preventive measures there is a great number of children with EEC. The complications of this desease lead to serious and dramatic situations for the child and parents, as well as for the therapist. In these situations the work success depents not only on the dentist's expertise, their experience, quick noticing and reacting, but also on child's age and cooperatition where parents' role is extremely impotrant and essential for the successful outcome.
Methodology: Recognising person's characterisitics helps predicting somebody's behaviour and reactions in given circumstances. Modern phychology has five-factor model which deals with five basic domains and their subordinate aspects to describe the personality. The main goal of FFM is to enable faster and easier anlysis of personality and practical applications in various fields, as well as in health. FFM dimensions are**:**
Neurotism – refers to the adaptability and emotional stability, experiencing fear and anger (ways of overcoming);
Extraversion - sociability, self-esteem, optimism, aloofness;
Openness – intellectual curiosity, need for change and new ideas;
Agreeableness - interpersonal relationships and trust, compassion, the need to help others;
Conscietiousness - ability of self-control, duty, obligation.
This model is considered to be a comprehensive description of personality, and studies indicate its cross-cultural invariance. Personality structure is associated with health habits, patient's attitude toward treatment, doctors and health. To assess these aspects of behavior domains of neuroticism, agreeableness and conscietiousness are especially important.
Conclusions: With the help of FFM as shortened questionnaire while taking a patient history and physical examination in dental practice, it is possible to estimate the type of parents and find the most effective way for successful cooperation which is the key to successful therapy and healthy dental habits with children.

Keywords: person's characterisitics, five-factor model, parents cooperation

22. CHINCAP THERAPY AT PATIENT WITH SEVERE CLASS III SKELETAL MALOCCLUSION

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Turkey

Aim: In this case report, we describe the Horizontal chincap therapy at early period in a patient with class III malocclusion and analyze the skeletal and dental changes that occured during treatment.
Method: A clinical and radiographic examination of the 6.5 year-old female came for treatment lower jaw

protrusion and toughest food, biting gloss, and mouth breathing, showed midfacial hypoplasy, mandibular protrusion, Angle Class III skeletal malocclusion, (-6,5 mm) overjet, (-6mm) overbite, (78,8 degree) SNA angle, (84,6 degree) SNB angle, (90,6 degree) IMPA angle, (-5,8 degree) ANB. Facial asymmetry, defined as difference in the size, shape, or relationship of two sides of the face. Unfortunately, prominent abnormalities of the facial structures play an important role in a growing individual's developing identity and often create undesired psychological results. It was decided first to occlusion increaser plate for reduce overbite. After that horizontal chincap applied for 11 months to fix the mandibular prognathy. 500- 550 gr extra-oral force was applied to patient's jaw and chincap were used approximately 24 hours/ day, only extracted at the time of eating. The cooperation of the patient was excellent during treatment. After this removeable appliance threatment continue with fixed orthodontic treatment

Results: Treatment results showed clokwise rotation of the mandible. These treatment effect resulted in an improved intermaxillary relationship (ANB increased 5 degree) and increased overjet. At the end of the used horizontal chincap (79,5 degree) SNA angle, (79,1 degree) SNB angle, (76,8 degree) IMPA angle. There were significant improvement in the soft tissue profile.

Conclusions: At early period, horizontal chincap can be used realible means for treatment in patients with mandibular prognathy.

Keywords: class III horizontal chincap

23. A DELAYED HYPERSENSITIVITY REACTION TO A STAINLESS STEEL CROWN: A CASE REPORT

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Turkey

Introduction: Stainless steel crowns (SSCs) are commonly used to restore primary or permanent teeth, and SSCs are ranked fifth after amalgam, glass-ionomer cement, resin-modified glass-ionomer cement, and composite resin in their use in pediatric restorative dentistry. Small amounts of the metals in an SSC can be released into the oral cavity, and this leaching may be a potential trigger of an allergic reaction.

Case report: We describe a case of a delayed hypersensitivity reaction which manifested itself as perioral skin eruptions after restoring the decayed first permanent molar tooth of a 13-year-old Caucasian girl with a preformed SSC. The dermatologist presumed that the underlying cause of the eruptions was associated with the restoration of the decayed tooth with the preformed SSC. It was decided to remove the SSC because it was concluded that the SSC probably was the underlying cause of the facial eruptions. When she presented at the follow-up visit, one week later, the eruptions had completely healed, although she had not treated the eruptions over this one-week period. The tooth was restored with a temporary bis-acryl crown and dental bridge. She was re-examined in the clinic, one week later. The perioral facial eruptions did not recur after replacement of the SSC with the temporary bis-acryl crown and dental bridge. One week and six month later, the perioral facial eruptions did not recur after replacement of the SSC with the temporary bis-acryl crown and dental bridge.

Conclusions: Hypersensitivity reactions to dental restorative treatments may occasionally occur, and when they occur, an alternative restorative material should be used.

Keywords: stainless steel crown, delayed hypersensitivity, dental material hypersensitivity

24. CEPHALOMETRIC CARRACTERISTICS OF CLASS II MALOCCLUSION IN CHILDREN (8 – 15 YEARS OLD) IN SERBIA

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Serbia

The aim of this study was to investigate some of major caracteristics of Class II malocclusion in population of Serbian children aged 8 – 15 years. The investigation was carried out on the laterall cephalographs of 450 patientes (ANB angle more than 5^{o}) in our clinic. The following cephalometric measurements were made**:** angles SNA, SNB, ANB, SN/ SpP, SN/ MP, Björk poligone angles (NSAr, SArGo, ArGoMe and their summ), I/SpP, i/MP, I/i; linear parameters N – Me, S – Go, Cd – Me, Cd – Go, Go – Me, Snp – A. The dominate findings are**:** mandibular retrognatism with slightly prognatism of maxilla, ANB angle is $5{,}46^{o}$ average, higher mandibular plane angle, growth of the face is mostly by backward rotation (62 %), upper and lower incisors are protruted, mandibulla is shorter (Cd – Me and Go – Me). It is easier to decide when you will start the therapy, and to choose the most adequate appliance, if you know the carracteristics of the malloclusion in your population.

Keywords: class II, cephalometric, serbian children

25. RESTORATION OF A COMPLICATED CROWN ROOT FRACTURE: TWO-YEAR FOLLOW-UP

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Turkey

Introduction: Anterior crown fractures are a common form of injury that mainly affects children and adolescents. The position of maxillary incisors and their eruptive pattern carries a significant risk for trauma. This case report presents outcomes of two-year follow-up a complicated crown root fracture by trauma and restoration completed with tooth fragments and polyethylene fiber (Ribbond®-THM).

Case report: In the history taken from the patient (8, ♀) and the parent referred to Selçuk University Department of Pediatric Dentistry, right upper central incisor tooth

was reported to fracture of trauma by falling. Intraoral examination revealed complicated crown root fracture and fragment was mobile but in place mobile fragmented crown fractures which were still with the tooth. On palatal side, fracture line was under gingiva and also pulp exposure was confirmed. Radiographic examination indicated incomplete root development and no pathological condition on periapical tissues. Under local anesthesia fractured fragments were removed. Amputation of remained root part and MTA application was performed in same session. After MTA amputation, crown was prepared to set polyethylene fiber. Fracture line became visible by periodontal surgery procedures and crown part was bonded to remained tooth by adhesive resin. Composite restoration was completed after fixing polyethylene fiber post between root and crown space.
Conclusions: The development of adhesive dentistry has allowed dentists to use the patient's own fragment to restore the fractured tooth. Two-years follow up of radiographic and clinic examination demonstrated no pathologic condition and continued root development. Routine control of the patient continues.

Keywords: Tooth Injuries, Ribbond, Amputation, MTA

26. ENDODONTIC THREATMENT OF COMPLICATED CROWN FRACTURE WITH IMMATURE ROOT DEVELOPMENT – A CASE REPORT:

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Serbia

Introduction: Trauma to the oral region occurs frequently and comprises 5% of all injuries for which people seek treatment. Crown fractures occur most frequently of all dental injuries.
Case report: An 7- year-old girl was referred to the Clinic of Paediatric and Preventive Dentistry, School of Dentistry University of Belgrade with complicated crown fracture of both permanent upper central incisors (11 and 21), fifteen hours after the accident. A fracture of enamel and dentine with pulp exposed and immature root development was diagnosed based on clinical and radiographic evidence. Immediate treatment involved partial pulpotomy by Cvek on tooth 11 and pulp capping with Ca (OH)2 on tooth 21. Several days later, definitive restauration was achieved by composite restaurations. After 4 months, a complication of injury was occurred because of pulp necrosis which required root canal debridement to prevent root resorption. During next 12 months, root canal was filled by the sterile paste of Ca (OH)2 on 30 days in order to induce an apical barrier formation – i.e. apexification. One year later on tooth 21 the apical perforation was closed and tooth was definitely endodontically treated by the Acroseal® and gutta percha poens. Follow-up controls of tooth 11 gave positive results to pulp testing at electric pulp test or cold test. One year, after the end of treatment, clinical and radiographic examinations revealed no signs of pathology and the patient was satisfied with her aesthetic appearance.
Conclusions: Analysing the obtained results, it can be concluded that an appropriate treatment plan after an injury is important for a good prognosis.
This study is supported by grant of Ministry of Science and Technology, Republic of Serbia No. III 46009.

Keywords: immature root development, crown fracture, endodontics

27. FUNCTIONAL APPLIANCES IN THE TREATMENT OF MALOCCLUSION

Jasminka Andjelic

Treatment with functional appliances enables simultaneous action on both jaws in children during teeth shedding and in adolescents. It is believed that they change neuromuscular environment by changing the position of mandible. They also encourage growth processes and development of craniofacial structure. They are of the greatest importance during growth and development and therefore are most effective in patients who are in prepubertal growth spurt.
The aim of this study was to determine the changes in bone soft tissues of the orofacial region after application of these appliances.
Materials and methods: Gnatometric and cephalometric analysis were used as diagnostic methods. Gnatometric analysis was performed according to Schwarz and cephalometric analysis according to Schwardz, Steiner and Bjork. In addition analysis of hand wrist radiographic image was performed what was the basis for beginning of treatment.
Results: The analysis was performed in a patient with skeletal distal bite who was treated with functional therapy. Skeletal distal bite with protrusion of upper front and retrusion of lower front teeth was confirmed by gnatometric and cephalometric analysis. The patient had anterior growth type with short lower third of his face and convex profile. It was determined that the patient was in prepubertal growth spurt by using the bone age assessment. The patient was treated for 16 months. After the treatment was completed there have been significant changes in cephalometric findings as well as in patient facial appearance both en face and in profile.
Conclusions: The analysis of results obtained when functional appliances were used clearly showed the significant changes both in the position and the size of jaws and in position of teeth in all three directions. The success of this treatment depends on how long the appliance was worn, the patient's age i.e. beginning of treatment as well as the technique and the precision of taking the constructive bite.

Keywords: functional appliances, treatment, malocclusion

28. THE IMPORTANCE OF SECOND DECIDUOUS MOLAR FOR THE DEVELOPMENT OF NORMAL OCCLUSION

Snezana Matijevic

The aim of this study is to present how important the second deciduous molar is for alignment of the first permanent teeth and the development of normal occlusion.
Materials and methods: The subjects of this study were 6-year-old children prior to their first grade of the elementary school enrollment. At the beginning of the school year 2009/10, 170 children were examined. As examined children didn't have regular dental check-ups, they had a large number of carious teeth, especially molars.
Results: Among 170 examined children, 120 children or 78.6% had carious teeth, 12 children or 7.6% had one to two extracted deciduous molars and 33 children or 21.5% had healthy teeth.
Conclusions: Taking into account the scientifically proven tendency of mesial movement of teeth into empty space it can be concluded that**:**
- in children with healthy deciduous teeth, first permanent molars were aligned with deciduous teeth and in normal occlusion
- in children with one or two extracted teeth the first permanent molars were more or less moved mesially and there was abnormality of occlusion
- a large percentage of deep caries in deciduous molars leads to their premature loss having as a result mesial movement of the first permanent molars and abnormality of occlusion.

Keywords: molar, normal occlusion, carious teeth

29. RECONSTRUCTION OF ANTERIOR TEETH WITH FIBER REINFORCED POSTS AND CELLULOID STRIP CROWNS: A CASE REPORT:

Husniye Gumus, Mustafa Aydinbelge, Salih Dogan
Turkey

Introduction: The use of intracanal posts and cores enables more extensive reconstruction of destroyed anterior teeth to solve functional and esthetic problems without interfering with root resorption and to improve the retention of definitive restoration following endodontic treatment. There are various materials available for this objective**:** prefabricated posts, metal posts, orthodontic wire posts, biologic posts, composite posts, and fiber-reinforced posts. In recent years, various types of fiber reinforcement have come into widespread use as an alternative to cast or prefabricated metal posts in the restoration of endodontically treated teeth. Compared with metal posts, the elasticity of reinforced polyethylene fiber is closer to that of dentin. The use of reinforced fiber as an intracanal post offers a solution that is both esthetic and simple, because restorations can be completed in only 1 session, without a laboratory phase. Considering these advantages and fiber-reinforced posts was chosen as the post material in the case reported here.
Case report: The case report presented in this article is of a 12-year-old girl with severely decayed maxillary and mandibular anterior teeth because of hipocalcification. After root canal treatment, the permanent maxillary and mandibular central, lateral and canine incisors were reinforced using polyethylene fiber–reinforced composite resin posts and restored using celluloid strip crowns. The technique described here offers a simple and effective method for restoring severely decayed permanent anterior teeth that reestablishes function, shape, and esthetics.
Conclusions: The final results of the teeth were satisfactory for our patient although there were no orthodontics treatment performed.

Keywords: aestetics, fiber reinforced post, strip crown

30. ROOT RESORPTION OF A PERMANENT SUPERIOR CENTRAL INCISOR. CASE REPORT

Roxana Speranta Vlad, Viviana Vlad
Romania

Introduction: From the total emergency cases registered in the Department for Paedodontics, 1% are traumatised teeth. Internal resorption of their roots are rarely seen.
Case report: A nine year old boy, class II/1 Angle, experienced last july a mouth injury follwed by crown fractures and avulsions in mood of both central superior incisors. Both teeth were cleaned and kept in water by the parents and reimplanted and maintained in a fixed appliance in the Surgical Department after more than 6 hours from the injury. After 1 week, the fixed appliance were removed and after 2 months both teeth were endodontically treated for they became grey and slightly mobile. The pulp was almost dead and the root canals were filled with a clorphenol-iod-zinc-oxyde and calcium hydroxide paste. At the request of the patient who was a musician pupil, the crown fractures were also completed with reinforced composirte fillings. After 1 ½ month, the patient claimed an abcesses in the 21 and a fairly important mobility. An usual retroalveolar Rx image was taken and it revealed an almost complete root resorption of 21. The first root filling was removed and replaced with a new same one after 2 weeks. The next 3 months follow-up showed a reduction in tooth mobility, lack of abcesses, but a slight buccal movement of 21.
Conclusions: If the financial resources will allowed, we plan a cone beam radiography and a replacement of the actual root filling with MTA, eventually a new maintenance in a fixed appliance till the adolescence, when a surgical and prosthetic approach will be allowed.

Keywords: root resorption, permanent incisor

31. UPPER CANINE EXTRUSION WITH USING OF THE ORTHODONTIC MINI-IMPLANT

Levent Almac

Introduction: The traditional orthodontic treatment

methods have changed because of the developments in materials. Using of the orthodontic mini-implants is spreading day by day. The aim of the present study is to show the effectiveness of the orthodontic mini-implant for extrusion of the upper canine in an adult patient.
Case report: The patient was 29_year_old male with an upper right canine that was inferior position. The patient didn't want to be treated with orthodontic brackets because of his social life but he was suffering from the upper canine that was initially inferior from the occlusal plane. The patient was treated with only one bracket was attached to related tooth. As an achorage unit, a 1.6mm X 8mm mini-implant was inserted interradicular space between lower right canine and first premolar. Vertical elastics were used between mini-implant and bracket, and 80 g force was applied.
Conclusions: Orthodontic mini-implants (OMI) are a predictable, effective, and well tolerated anchorage source for adults. Orthodontic force can be applied immediately to OMIs. There are two anchorage concepts. In this case, direct anchorage system was used. Direct anchorage is a set-up in which a force is directly applied from the implant to a tooth. With using of the vertical elastics, the upper canine was replaced to the right position and achieved ideal occlusion. The total treatment lasted for 1 month. After achieved ideal occlusion, the bracket and the mini-implant was removed and the fixed retainer was applied. Mini-implant is an effective tool for tooth extrusion as an anchorage unit. The treatment time was too short in this case. Because of relapse, the fixed retainer had been applied and there will be left for a long time.

Keywords: mini-implant, extrusion

32. SECONDARY IMPACTION IN PERMANENT DENTITION – CASE REPORT

Ana Maria Balanescu, Ecaterina Ionescu, Mircea Gardef, Theodor-Cristian Vizitiu
Romania

Introduction: Secondary impaction (secondary retention), as a particular phenomenon of the dental system, is when a tooth submerges into the alveolar bone after being present for a while into the oral cavity, in the context of the dento-maxillary functions.
This abnormality is the result of a gradual and slow process, in which the tooth suffers a more and more accentuated infraposition (partial secondary impaction), or it may even disappear from the oral cavity (total secondary impaction). The aetiology of secondary impaction is not fully elucidated, multiple factors are involved in causing these abnormalities (the mechanical theory, the ankylosis theory, the local metabolism disorder theory, the dental evolutive processes disorder theory, the bone development processes disorder theory)
Secondary impaction is more common in the primary dentition, and the interested tooth is almost always a molar (frequently the second molar and less frequently the first molar). In the permanent dentition, secondary retention is rarely seen, and it is more frequent in the posterior area, affecting the first and/or the second permanent molars.
Case report: This paper presents the case of a 24 years old patient, having all the first permanent molars affected by secondary impaction, and also the second upper right molar. Also, there are presented the adverse consequences of the secondary impaction, arising from the infraocclusion of the affected teeth and from the tipping of the adjacent teeth, respectively open bite, premature contacts, dental interferences and also reduced dimension of the lower facial height.
Conclusions: Secondary impaction occurs rarely in the permanent dentition, but when it does, it has a dramatic impact on the occlusion, facial appearance and on the treatment approaches.

Keywords: secondary retention, permanent dentition, infraocclusion, adverse consequences

33. THE CRANIAL BASE FEATURES IN THE DIFFERENT MALOCCLUSIONS

Raluca Grigore, Silvian Boiangiu, Alexandra Gramescu, Elina Teodorescu, Ecaterina Ionescu
Romania

Introduction: Due to its functional and aesthetic implications, the alteration of the cranial base morphology is an interesting topic for everyone, from dentists and orthodontists to orthognathic maxillofacial surgeons and plastic surgeons. The correlation between cranial base angulation and different malocclusions has been extensively studied and different theories have been proposed.
Materials and methods: We have selected 40 patients, in the mixed occlusal dentition stage of development, (as control sample and of the three class of malocclusions samples) from those attending the Orthodontic Department of the University of „Carol Davila Bucharest. The lateral cephallometric of every patient, has been traced and the following cranial base dimensions have been measured**:** anterior cranial base length (N-S), posterior cranial base length (S-Ar), the total length (Ar-N) and the cranial base angle (NSAr).
Results: Total cranial base length differed more or less significantly for every group of malocclusion. For this variation of the overall cranial base length, the anterior cranial base length, the posterior cranial base length but mostly the cranial base angle was responsible. We remarked, in skeletal Class III malocclusions, the increased flexure of the cranial base, which appeared to be related to the forward displaced mandible.
Conclusions: Even though the cranial base is consider to be a major factor in determining the anteroposterior relationships of the jaws and the dental arches and it must be taken into consideration in the diagnosis and treatment of different malocclusions, the cranial base morphology is not the only factor involved in malocclusion, other factors may influence the static jaw position and the degree of prognathism in individual cases. In conclusion, other scientific studies, with proper power, experimental design and statistical analysis should

be required in the future to draw more significant conclusions about this topic.

Keywords: Cranial base, features, malocclusions

34. CLEIDOCRANIAL DYSPLASIA: A CASE REPORT

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Turkey

Introduction: Cleidocranial dysplasia is an autosomal dominant skeletal condition recognized with skeletal defects of several bones, the most striking of which are partial or complete absence of clavicles, unossified sutures and late closure of the fontanels, frontal and parietal bossing, segmental calvarial thickening. Other skull changes, seen in these patients; are relative prognathism hypoplasia of maxilla, soft skull in infancy, delayed mineralisation, depressed nasal bridge, hypertelorism.
Case report: General apperance of the patient 19 year-old male, who applied to the orthodontic department on October 5th, 2007, was characterised by short stature, had ability to bring shoulders together. Delayed closure of fontanelleles and sutures, long 2nd metacarpal is clear.
Steiner cephalometric analysis revealed a class III skeletal pattern (SNA**:** 90.5 º, SNB**:** 91 º, ANB**:** -0,5 º) and decreased mandibular plane angle (23 º). Impacted, supernumerary teeth, delayed eruption, malocclusion, rotting teeth are clinical and radiological findings.
The first step of our orthodontic treatment planning was removing unerupted supernumerary teeth. Then orthodontic appliances were placed on the few teeth that were fully erupted and elastic thread was tied between the bonded brackets on the unerupted teeth and the arch wires to encourage eruption. After their eventiual alignment to treat skeletal class III and openbite anomalies we applied to orthognathic surgery. To eliminate openbite maxillar posterior impaction and anterior setting down with mandibular otorotation and to eliminate prognathi inferior mandibular set-back were operated.
Conclusions: For now, occlusion shows a Class I canine-molar relationship on both sides. Favourable facial changes, esthetic and healthy occlusion is achieved and his treatment is stil going on.

Keywords: Cleidocranial dysplasia, orthodontics

35. EFFECTS OF PREHEATING ON SHEAR BOND STRENGTH OF TWO LINGUAL RETAINER ADHESIVES

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Turkey

Objective: To test the null hypothesis that preheating of two different lingual retainer composites does not significantly alter their shear bond strengths (SBS) and change failure site locations.
Materials and methods: Light Cure Retainer (LCR) and Transbond LR adhesive (TLR) were used as lingual retainer adhesives. The crowns of 80 human lower incisors were mounted in acrylic resin leaving the lingual surface of the crowns parallel to the base of the moulds. The teeth were randomly divided into four groups**:** group (1)**:** LCR, group (2)**:** preheated LCR, group (3)**:** TLR, group (4)**:** preheated TLR. Calset (AdDent Inc.) was used to preheat the composites to 54°C. The adhesives were applied to the labial surface of teeth by packing the material into cylindrical plastic matrices (Ultradent) with an internal diameter of 2.34 mm and height of 3 mm to simulate lingual retainer adhesive mass. For statistical analysis, two-way analysis of variance and Tukey's tests were used to compare groups. Fracture modes were analyzed by chi-square test.
Results: The mean SBS values were detected as follows; group 1, (135.9±49.7), group 2 (135.9±49.7) group 3, (139.6±36.1) and group 4, (139.6±36.1) MPa. Significant difference was found between the groups 2 and 4 ($P < 0.05$) In general, a greater percentage of the fractures were adhesive (60-65 per cent).
Conclusions: The null hypothesis could not be rejected. SBS of test composites were not affected by the preheating significantly. Effect of preheating is not similar for different materials. SBS of preheated LCR composites was significantly higher than preheated TLR composite.
Keywords: bond strength; adhesives; preheating

36. CEPHALOMETRIC COMPONENTS OF OPEN BITE MALOCCLUSION

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Serbia

Aim: The aim of this paperwork has been to, by the analysis of profile snapshots of the head, determine the cephalometric characteristics of a open bite malocclusion in a sample of adult patients.
Material and method: There were analyzed 44 profile cephalograms of patients with skeletal open bite malocclusion and 52 subjects with normal occlusion, both sexes, in permanent dentition. The cephalometric analysis included 18 angular and 4 linear measurements concerning the sagittal and vertical skeletal and dentoalveolar relationships. The obtained results are processed statistically and the following parameters are calculated – X, SD, Cv and min-max. The differences between the sexes and between the examined groups were tested by Student t-test.
Results: Anterior cranial base angle was smaller in group with open bite malocclusion. In patients with a skeletal open bite articulare, gonial and basal angles were larger comparing with control group.In patients with an open bite mandibular retroinclination, maxillary incisor protrusion, mandibular incisor retroclination were significantly larger were compared with the control group. Statistically significant increased of anterior face height

and decreased of posterior face height in patients with an open bite were determined.Patients with an open bite had a shorter ramus mandible. According to the Bjorks polygons, in patients with a skeletal open bite dominates the posterior type of face growth.
Conclusion: There were found statistically significant difference between groups for many parameters, patients with a skeletal open bite malocclusion had characteristic craniofacial complex.

Keywords: open bite malocclusion, cephalometric

37. SEQUENCE AND CHRONOLOGY OF THE ERUPTION OF THE PERMANENT CANINES AND PREMOLARS IN ROMANIAN CHILDREN

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Romania

Introduction: Teeth eruption is a dynamic, genetically dictated process which is a part of the odontogenesis and comprises all of the tooth's movement from the bone crypt where it formed until reaching the occlusal plane and starting its function.
Chronologically normal eruption is defined as the situation in which dental eruption takes place at time moments placed around the medium eruption age calculated on large population samples.
Aims**:** Determining the medium eruption age of the teeth emerging in the second stage of the permanent teeth eruption (canines and premolars) in children from Bucharest, Romania.
Materials and methods: The retrospective transversal study was conducted on a sample of 2081 Caucasian children aged between 8 and 13 years who presented to the Paedodontics Clinic for consultation and treatment in the period 2006-2011. The statistical analysis used specific descriptive and interferential (confidence intervals) methods.
Results: The permanent canines and premolars erupt in the age interval between 9 years 6 months and 11 years and 6 months in the following sequence**:** first upper premolar, lower canine and first premolar, second upper premolar, second lower premolar, upper canine. The study revealed the existence of differences in the sequence and timing of the eruption according to gender and dental arch. The maxillary eruption occurred earlier in girls than in boys and the situation in the mandible was similar except for the first premolar which erupted earlier in boys.
Conclusions: Overall the results of the study are in accordance with data from many studies previously performed, with a few differences in what concerns the sequence of eruption of upper canines and premolars in girls.

Keywords: chronology and sequence of eruption, permanent canines, premolars

38. DENTAL PATIENT WITH ASTHMA

Gordana Panic, Verica Stefanov, Sladjana Miljanovic
Serbia

Asthma is leading chronic disease in children and it's prevalence in recent decades is continuously progressing. Every sixteen child in Serbia suffers from asthma, which is usually diagnosed in the age group 2-5.
A child with asthma is a risk dental patient and dental treatment may result in reduced lung function, which is why oral health care providers should be enabled to recognize the signs and the symptoms of asthma and should establish work protocols in order to avoid potential acute exacerbation of pulmonary obstruction.
The GOAL in managing a patient with asthma is to prevent an acute asthmatic episode during the dental procedure.
Methodology**:** When working with an asthmatic patient, the procedure should be to include**:**
Taking a medical history; Checking time the patient has taken prescribed dose medication; Anxiety is known to asthma trigger and dental clinic environment carries a potential for an acute attack. The best time to schedule a patient with asthma is late morning or in the afternoon. Dentist should pay close attention to dental materials and products they are using, because they may cause an attack**:** tooth and polishing pastes, fluoride trays, cotton rolls, suction tips, spray anesthetics and ultrasonically plaque remover. Avoid long keeping the patient in the supine position. Some painful interventions such as extraction, surgical interventions, pulp extraction can lead asthma attack. In addition to these procedures the patient must be referred to preventive measures which he has to apply in order to preserve oral health**:** use of fluoride, rinsing the mouth with water after using the inhaler, appropriate and regular oral hygiene, regular visits the dentist and solving orthodontic anomalies.
Conclusions: Oral health care providers play a role that is important in terms of both patients overall health and the systemic conditions effects on oral health. As such, they need to understand what causes exacerbation and provide safe and appropriate dental care for these patients.

Keywords: Asthma patient

39. CORONAL MICRO LEAKAGE AFTER FIBER POST TREATED ROOT CANAL

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Turkey

Introduction: Coronal leakage or Coronal micro leakage, is a potential cause of endodontic failure. The quality of the coronal restoration in root-filled teeth has been considered to be an important etiologic factor in post treatment endodontic disease. Coronal restorations and posts can positively influence the long-term prognosis of teeth following root canal therapy. The aim of this case report is to present restoration of coronal part of root.

Case report: An eleven-year-old male patient was referred to our clinic with a history of painless swelling. The patient had no known allergies or systematic problems. Anamnesis revealed to fiber post used in previous root canal treatment Clinical examination revealed mobility, gingival hemorrhage, abscess formation and pain on percussion of the upper right central incisor. Radiographic examination indicated the irregularity of the lamina dura and periodontal ligament. Combined antibiotics were prescribed. One week later pain, swelling, mobility and hemorrhage disappeared. Apical curettage was performed and MTA placed apical third part of root canal. The presence of a gap was detected after removing previous restoration. After enlarging with flame shaped diamond bur to provide the appropriate form, this gap filled with flowable composite resin. Composite restoration was completed after surgical endodontic procedures. After 6-months follow-up clinical and radiographic healing were observed.
Conclusions: The influence of the gap between the post and the coronal restoration on the clinical outcome of endodontically treated teeth is essential for long-term success. Bacteria harbored the oral cavity can cause periapical inflammation by penetrating the root canal not only before or during the endodontic treatment but also during the restorative procedures or after its completion. This case report showed the importance of the coronal restoration root-filled teeth in preventing unfavorable periradicular tissue reactions. Routine control of the patient continues.

Keywords: dental leakage, MTA, apical resection

40. REACTIVE FIBROUS HYPERPLASIA ASSOCIATED WITH A NATAL TOOTH

Hristo Antoniev Bozukov, Nikoleta Markova, Emilia Ilieva
Bugaria

Introduction: A natal tooth is present in the oral cavity at the time of birth. Fibrous hyperplasia is a non specific reactive lesion of soft tissues of unknown etiology usually associated with trauma or local irritation. Natal teeth can occur as an isolated dental finding, but many times they are associated with syndromes and developmental disturbances. There is no difference in the prevalence between males and females, however a predilection of 66% for female has been reported.
Case report: A fourteen days newborn female baby was brought by its parents to the Department of Pediatric dentistry with a compliant of a formation in the maxillary anterior region of the mouth. The child was healthy and the history revealed that it was born after a normal uncomplicated full term pregnancy. At the clinical examination a pedunculated tissue covered with poorly fixed shell-shaped crown which measured about 0,5 -1.5 centimeters was seen in palatine front region of the mouth. The shell-shaped crown had been removed and was observed a firm mass. It had brown color and smooth surface. Several diagnosis were discussed**:** 1.pyogenic granuloma. 2. congenital epulis 3. inflamatory hyperplasia. It was decided to excise the lesion under local anesthesia and send to hystopathological examination. The result was reactive fibrous hyperplasia. The postoperative healing was fast and normal. The recalls were two times - after first and second week. There were no complications or recurrence of the lesion.
Conclusions: The current report describes a case of a natal tooth by a soft tissue growth. Surgical intervention in time, effectuated carefully and professionally, after a detailed clinical examination is necessary to avoid complications. The combination of a fibrous growth in association with a natal tooth makes this case very interesting.

Keywords: fibrous hyperplasia, natal tooth,predeciduous teeth

41. TREATMENT OF SEVERE CLASS II MALOCCLUSION BY USING CERVICAL HEADGEAR

Nejla Karacam, Hatice Kubra Demirtas, Ahmet Fidancioglu, Zafer Sari
Turkey

Introduction: The most common problem in the sagittal direction is the Class II malocclusions. Class II malocclusions have variety of treatment modalities. Non-extraction treatment of Class II malocclusion frequently requires upper molar distalization. Cervical headgear has been used more than 50 years as an efficient method of treatment for Class II malocclusions. The purpose of this study is to present a case with skeletal Class II malocclusion and increased excessive overjet treated with the cervical headgear.
Case report: 8 years old female patient who had skeletal Class II relationship and normal growth pattern referred to our clinic with the primary complaint of incompetent lips. The patient had a convex profile and she was in mixed dentition. The clinical examination and cephalometric evaluation revealed 11.3 mm overjet, 3.6 mm overbite, labially inclined upper and lower incisors, mandibular retrusion (SNB**:** 73,9°), Angle Class II molar relationship and normal growth pattern. At the beginning of the treatment, the patient's skeletal maturation stage was MP3=, based on Greulich-Pyle atlas. At the first phase of the treatment cervical headgear was used. At the second phase, fixed orthodontic treatment started. Total treatment time was 2 years 7 months. At the end of the orthodontic treatment, Class I occlusion with ideal overjet and overbite and a balanced profile were obtained.
Conclusions: A patient's growth potential is an important factor in successful orthopedic or orthodontic treatment of a skeletal Class II malocclusion. Especially, a favorable amount and direction of facial skeletal growth can greatly facilitate the correction during therapy.
In Class II growing patients with protrusive maxilla, headgear treatment with fixed orthodontic appliances is effective on improving facial profile esthetics.

Keywords: Cervikal Headgear, Class II,Protrusive Maxilla

42. RISKS FACTORS FOR ORAL-FACIAL CLEFTS

Nevenka Velickova, Gacova M, Dimova C, Papakoca K, Kamceva G

Introduction: The aim of this study was to evaluate the risks factors, incidence, causes and symptoms of oral facial clefts at the children hospitalized in the children's ward in Stip.
Materials and methods: After birth, cleft lip and palate were diagnosed by physical exam. The risks factors and special exposure of their mothers during pregnancy were assessed. Also, the incidence, causes and symptoms at the children with oral facial clefts were evaluated. Their parents did n't have oral-facial clefts.
Results: The results indicated that during past 10 year children with oral facial clefts were borned in series in the same or closer month in the year. Also, was find that every year increased the number of children with oral-facial clefts and they were not associated with other syndrome. Children with oral-facial clefts have special problems and complication like feeding difficulties, ear infections and hearing loss.
Conclusions: The obtain results suggest that environmental factors, such as drugs (including several different anti-seizure drugs) and maternal smoking, are risk factors for appearance of oral-facial clefts. Cleft lips and palates were not associated with a syndrome are caused by a combination of genetic and environmental factors. We concluded that seasonal causes (such as pesticide exposure); maternal diet and vitamin intake; retinoids, which are members of the vitamin A family; anticonvulsant drugs; alcohol; cigarette use; nitrate compounds; organic solvents; parental exposure to lead; as teratogens increase the possibility of clefting. An increased risk for isolated oral-facial clefts was found in cases born to mothers treated with amoxicillin, phenytoin, oxprenolol, and thiethylperazine during the second and third month of pregnancy, which is the critical period for during fetal development.

Keywords: oral-facial clefts, anti-seizure drugs, pregnancy

43. DENTAL HEALTH, ORAL HEALTH BEHAVIOUR AND ATTITUDES IN SCHOOLCHILDREN

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Bosnia and Herzegovina

Introduction: During the last decades many industralised countries have experienced a dramatic decline in dental caries prevalence of children and adolescents. In parallel with the changing oral disease patterns there have been significant improvements in oral health awareness, oral health behaviour and attitudes of children and parents. The aim of this cross-section study was to decribe dental health and oral health beahviour and attitudes among 15-18 year-olds subjects in Republic of Srpska, Bosnia and Herzegovina.
Materials and methods: The study was conducted among 212 15-18 year old schoolchildren, randomly selected from two urban schools and three rural schools in eastern region of Republic of Srpska, Bosnia and Herzegovina. Data concerning oral health behaviour and attitudes were collected by self-administered structured questionnaires. Clinical examinations were done according to World Health Organization (WHO) guidelines.
Results: The mean DMFT was 7.0 for schoolchildren in urban schools and 1.4 for schoolchildren in rural schools ($p< 0.001$). Nearly one third (30.7%) of the schoolchildren was caries free. Children from urban schools showed less dental caries ($p<0.05$), missing ($p<0.001$) and filled teeth ($p<0.001$) than their counterparts in rural schools. Considering oral health behaviour and attitudes significant difference was obsereved only for type of toothbrush ($p<0.05$) and time of the last visit to the dentist ($p<0.05$) between the groups.
Conclusions: The dental status in investigated area is poorer in schoolchildren from rural than from urban schools. Systematic community-oriented oral health promotion programmes are needed to target lifestyles and the needs of schoolchildren, particularly for those living in rural areas.

Keywords: DMFT, oral health behaviour, schoolchildren

44. THE INTERDISCIPLINARY TREATMENT OF CONGENITALLY MISSING LATERAL INCISORS

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Turkey

Introduction: The incidence of congenitally missing maxillary lateral incisors has been reported to range between %1 and %5. Maxillary lateral incisors are one of the most common congenitally missing teeth. Managing patients with congenitally missing maxillary lateral incisors needs several important issues such as the amount of space, type of malocclusion, age and situation of the adjacent teeth. Treatment modalities for these cases can include orthodontic movement of posterior teeth into lateral incisor sites, prosthodontic restorations including fixed or removable prostheses, or single tooth implants.
Case Report: The treatment plan consisted of applying single tooth implant following obtainment spaces for missing lateral incisors. The treatment began by using monoblock functional appliance. After the ideal overjet and sagittal skeletal relationship were obtained, the fixed orthodontic treatment started with Roth 0,018 system with the aim of gaining space for upper lateral area. Following alignment-levelling phases, the patient was instructed about full time use of the Class II elastics to gain dental Class I relationship. Canine distalization and upper central convergence provided. When the orthodontic treatment finished, a Hawley (with plastic lateral incisor teeth) appliance was applied with upper and lower lingual retainers.The total orthodontic treatment time was nearly 20 months. The single tooth implants will be applied at the age of 18.
Conclusions: There are many treatment modalities for congenitally missing teeth. Most of the cases need

interdisciplinary treatments. Treatment modalities should be selected by evaluating cases carefully and consulting other departments. In our case, we planned to apply surgical treatment after providing dental and skeletal Class I relationships, ideal overjet-overbite. All the treatment goals have been achieved.

Keywords: congenital lateral missing, implant

45. TREATMENT OF CLASS III PATIENT WITH DAMON MECHANISM

Ozlem Akinci, Zehra Ileri, Zafer Sari
Turkey

Introduction: Class III patients with maximum crowding are challenging ortodontic anomalies. Correction of Class III malocclusion would involve traditional orthodontic treatment like molar distalization with fixed appliances, dental extractions or reverse headgear With Damon system mechanism, even if severe crowding dental arches can be treated without extractions. Also nonextraction treatment using low forces and minumum cooperation of patient are reduces treatment time.
Case Report: 13 years 2 months chronological age male patient who complained anterior region crowded and anterior cross bite referred to our clinic. In upper arch 12 mm, in lower arch 3,2 mm space requirement have been identified. The patient with Class III malocclusion had -1 mm overjet and 2 mm overbite. The right canine was impacted and the left canine was out of occlusion. Sefalometric values were ANB**:** 0,7 ˚, SN-GoGn**:** 36,4˚, Mx 1–SN**:** 109˚, IMPA**:** 84,3˚ before the treatment. The patient was treated with a self-ligating bracket system (Damon 3, Ormco Glendora, Calif). We aimed to have ideal overjet and overbite relationship and eliminate maximum crowding by using Damon mechanism with low forces. All teeth including first and second molars were bonded with Damon 3 brackets and tube. The archwire sequence involved a 0.014, 0,016, 0.014 × 0.025, 0.017 × 0.025 Cu-Ni-Ti and 0.019 × 0.025 SS. Lateral cephalometric radiographs were used to assess the alterations before and after alignment. Measurements of intercanine and intermolar widths were also made on dental casts to determine changes associated with correction.
Conclusions: The treatment time was 1 year 11 months and at the end of this time, Class III malocclusion was corrected, ideal overjet and overbite relationship obtained, the profile was improved. We get satisfactory results by using Damon mechanism.

Keywords: damon, class III, nonextracted treatment

46. FACIAL ASYMMETRY IN A CASE OF CANINE CROSSBITE WITH TMD

Olivia Popoviciu, Elina Teodorescu, Ecaterina Ionescu, Viorica Milicescu
Romania

Introduction: As asymmetric development of the face can occur in any developmental stage, the detection of such evolution and of its underlying factors may frequently be detected. Regaining balance in the development of various components of the dento-maxillary system of the growth patient will avoid, in some cases, anatomical mandibular asymmetry due to long term dysfunctional deviation of the mandible, allowing evolution towards restoring TMJ functionality and facial harmony, significantly impacting health and social life.
Case Report
R. I., aged 19, was sent by an OMF surgeon for orthodontic consultation accusing right TMJ pain, with painful limited mouth opening. Following TMD symptomatic therapy with an acrylic splint, she was diagnosed with multiple agenesia (upper lateral incisors and right second premolar, 3 third molars), upper left canine impaction and upper left first molar extraction, right canine crossbite and right lateral shift of the mandible. Facial asymmetry, observed at first encounter, is confirmed by the posteroanterior cephalogram analysis, that quantifies the transverse discrepancy between the maxillary and mandibular bases and the skeletal asymmetry of the mandible, contributing also to the topographic location of the impacted canine.
While the lateral deviation of the mandible can be traced back to at least age 12-13 years, related to right canines' eruption, the growth deficit of the maxillary base follows a longer path, aided by agenesia and extraction.
One year later, correction of the blocked occlusal relations and lateral shift of the mandible offers limited improvement of facial asymmetry, as long term asymmetric function modified mandibular length.
Conclusions: Timely detection of the maxillary growth deficit and therapeutic intervention would have avoided in this case the lateral shift of the mandible with the consecutive temporo-mandibular disorder and asymmetric development of the mandible, while late treatment allowed occlusal relief with only partial functional and esthetic repair.

Keywords: asymmetry, crossbite, TMD

46. TRAUMATIC AVULSION

Oljaca Slaven, Sahmanovic Kemal

Traumas of teeth and orofacial region in children are the first degree emergencies in pediatric dentistry.
Eight years old male patient suffered a facial trauma and avulsion of tooth 11 (central right superior incisive tooth).First treatment was given two hours after the trauma in teh emergency room.The tooth was replanted to alveoli.The replanted tooth was reinforced by composite fibberglass fibbers splint in the public dental clinic.The next day,we performed radiographic exam and ordered antibiotic therapy.After ten days,the replanted tooth was endodontically treated and filling the canal with calcium hydroxide.Then the splint was removed.Control was made after six months and radiography showed the signs of external resorption.Definitive filling was removed

and applied with calcium hydroxide.The patient has been monitored monthly.
Dental avulsion represents dental trauma in which an adequate and timley dental treatment is of crucial importance for the success of the therapy.Period from the occurrence of trauma to the moment of intervention and way of preservation of extracted tooth are also very important.Replantation of avulsed teeth is certainly needed,as by this means, at least for a certain period of time,the patients disrupted function is established.

Keywords: Traumatic avulsion

47. REHABILITATION OF AN EXTRACTED ANTERIOR TOOTH AREA USING BONDABLE REINFORCEMENT RIBBON AND ACRYLIC TOOTH

Pinar Cevik, Oznur Eraslan
Turkey

Dental traumatic injuries are widespread in the population and are a frequent pathology among children and teenagers. Conservative solutions for the restoration of a single edentulous space in the anterior maxilla present an esthetic challenge to the dentist. Because of a resin-bonded fixed partial denture allows for more conservative tooth preparation, they are prefered by both dentists and patients. Fiber-reinforced composite (FRC) bonded fixed dental prothesis have been used as an alternative to conventional metal-based or zirconia-based fixed restorations especially among young patients.
We present here a case of a 14-year-old boy with extracted upper santral incisor treated by placing an acrylic tooth with reinforced polyethilen woven fiber and flowable composite. The patient was referred to our clinic for a conservative, rapid, and economic treatment. After radiographic and clinical examinations, it was decided that an acrylic tooth should be used for the restoration of extracted area.The acrylic tooth was splinted to adjacent teeth with the aid of the grooves and bondable reinforcement ribbon (Ribbond, Inc. Seattle Washington USA) and flowable composite. Several types of fiber can be used to reinforce the composite resin. We prefered here reinforced polyethylene woven fibers fitting the space area.
As well as the bonding system, mechanical adaptation and the retention of the fiber frame and the grooves of the pontic are fundamental for the success of this type of adhesive restoration. The esthetic solution proposed was the building of a biologic restoration using reinforced polyethylene fibers as an interim restoration for this young patient.

Keywords: FRC fixed prothesis

48. DENTAOALVEOLAR CHANGES IN PATIENTS WITH CLASS II/1 TREATED WITH TWIN BLOK APPLIANCE

Predrag V. Nikolic, Zeljko B. Milosavljevic Ort
Serbia

This study was designed to investigate the maxillomandibular dentoalveolar changes produced by the Twin block appliance.
The treatment group consisted of 20 consecutively treated patients with skeletal Class II/1 malocclusion (ANB > 5°, U1/SpP< 65°), full cusp Class II molar relationship.
The present study was carried out on lateral cephalograms taken before and after the treatment. Angular measurements**:** U1/SpP, U1/SN, L1/GoGn, U1/L1. Linear measurements**:** Upper and lower anterior dental height, upper and lower posterior dental height, vertikal (overbite) and horizontal (overjet) distance between incisors, U6 to Ptv and L6 to Ptv.
Overjet decreased, the distal movement of the upper molars and the mesialization of the lower molars was observed. Upper incisors demonstrated agreat degree of retrusion and the interincisor angle increased. Decrease in the degree of overbite occured.

Keywords: dentoalveolar changes Twin block appliance

49. CLINICAL NECESSITIES

Raluca Pascu, Elina Teodorescu, Stefan Milicescu jr, Ecaterina Ionescu
Romania

Introduction: The adults which require orthodontic treatment are mainly between 20 and 40 years old, with several particularities, both pathological and social.
A distinct group form this perspective is represented by patients over 40 years old which begin to confront the practician with the necessity of an orthodontic treatment as part of a complex reconstructive stomatological treatment. In the development of the treatment plan, the physician may determine if the reconstructive treatment can be improved by modifying the teeth position, being eliminated the pathological potential of an incorect occlusion and permitting the achieving of a reconstruction more esthetic, functional and lasting.
Materials and methods: In order to determine the diagnostic and the treatment plan, as well as the objectives and the therapeutical modalities used within the orthodontic treatment of the presented cases, it has been started with the clinical examination. The complementary examinations included the radiological examination, meaning orthopantomography and profile teleradiography, photostatic examination at the begining of the treatment, during the treatment and at the end of the orthodontic treatment, as well as realizing the models of study, which served both to the documentation of the cases and to drawing the treatment plan and the technique used. There have been taken into study 150 cases.
Results: The aim and the wingspred of the orthodontic treatment are given by the improving of life quality, the adult patients asking for maximal esthetic results, requiring or not treatment from other dental specialities.
In particular, the therapeutical intention and intervention

may vary from the obtaining of specific results which control the evolution of dental and periodontal disorders, as well as the biological reconstruction of the edentations when is appropriate.
Conclusions: In developing the treatment plan, the physician may determine if the reconstructive treatment may be improved by modifying the position of the teeth, by eliminating the pathological potential of an incorect occlusion and permitting the achieving of a reconstruction more esthetic, functional and lasting. The auhtors aim to accomplish a synthesis of clinical particularities and of orthodontic treatment objectives in case of an adult patient, by virtually materializing these aspects.

Keywords: orthodontic treatement,complex reconstructive stomatological treatement,tooth position

50. MANDIBULAR INCISORS TEETH MOVEMENT RELATED TO MUCOGINGIVAL SURGERY FAILURE

Rodica Jianu, Stefan Stratul, Camelia Szuhanek, Alexandru Jianu, Rodica Bodea, Tiberiu Hoszu
Romania

Introduction: It is suggested that some cases with potential mucogingival problems may induce changes in the level of attached gingiva.
Case report: We present a case report of a male patient, with progressive mucogingival deficency of two malaligned mandibular incisors.
The labial alveolar bone is thin, the gingiva appears fragile. Orthodontic treatment is difficult, because of the movement of the root apex, witch may fenestrate the bony plate. Such tooth may require surgical procedure.
At three months after the initiation of the orthodontic movements, the patient presented with a fenestration of the gingival margin. After splinting of the incisor region, the endodontic treatment was performed and an access flap was opened, the defect was carefully curetted and the apex was resected. The tooth will remain in place until the completion of the orthodontic treatment, with the open option of a bone grafting of the defect, in view of an implant replacement.
Conclusions: Some of malaligned teeth with localized recession may require surgical treatment. Any insult to the grafted gingiva by orthodontic treatment subsequent to surgery, will be foloowed by failure.

Keywords: Teeth movement, mucogingival surgery

51. APICAL ROOT RESORBTION, RISK FACTORS IN ORTHODONTIC PATIENTS

Rodica Jianu, Darian Rusu, Alexandru Jianu, Camelia Szuhanek, Rodica Bodea, Tiberiu Hoszu
Romania

Introduction: Direct measurments of tooth length on pretreatment and postreatment radiographs show that only few pacients are severly affected. At increased risk are patients with narrow roots, patients with traumatic injuries and patiens impacted canines or with teeth anomalie (e.g. small lateral incisor, ectopic eruption).
Case report: This is the report of a case of a 16-year old patient with impacted canines, 8 months after the surgical exposure of the canine, an abnormal mobility of the central incisors was noticed.We could not identify any of the individual anomalies as risk factors for apical root resorbtion.
Conclusions: The case does not support the hypothesis that orthodontic patients with impacted teeth are at increased risk of apical root resorbtion during active appliance therapy.

Keywords: ectopic canine, impacted canine, root resorbtion

52. PARENTAL KNOWLEDGE REGARDING FIRST PERMANENT MOLAR OF CHILDREN IN BUCHAREST

Ruxandra Sfeatcu, Mihaela Adina Dumitrache, Ana Petre, Dan Lambescu, Carmen Elena Georgescu, Marian Cuculescu, Ecaterina Ionescu
România

Introduction: First permanent molar is recognized as the most important tooth in the arch and its early loss generates morphological and functional disorders. Being considered a temporary tooth, parents overlook the early decay and children get to the dentist with advanced lesions. Cultural and educational models provided by parents have a decisive significance in shaping the child's proper oral health behavior. The aim of the study is to describe parents' views on first permanent molar.
Materials and methods: A cross-sectional study was conducted in 4 randomly selected kindergartens. A self-administered 10 items questionnaire was distributed among 240 parents of preschool children attending these kindergartens in October 2010. The questionnaire covered parental knowledge towards the first permanent molar of their young children and demographic information. The ethical approval was obtained from the Ethical Committee of the University of Medicine and Pharmacy Carol Davila, Bucharest.
Results: 210 parents returned the questionnaires and the rate of responsiveness was 87.5%. Most respondents were aged between 26-35 years (76%) and were females (88%). The majority (63.3%) had education higher than secondary school level. In terms of knowledge about the erupting age, half answered correctly, 26.6% responded that appears at 11-12 years and 23.3% say they do not know. Only 50% of parents knew that appears behind the temporary molars, without replacing another tooth. Regarding methods of preventing caries, one third of parents choose brushing teeth twice a day, 20.81% regular dental check-ups and 11,67% sealing teeth. The sources of information are**:** the dentist (36.7%), media (20%), the pediatrician (3%) and educators (2%).
Conclusions: The relatively low level of parental

knowledge and low awareness of preventive methods indicated a need for them to receive accurate information about factors influencing the oral health of preschool children in Bucharest, Romania.

Keywords: oral health, knowledge, parents

53. MANAGEMENT OF BILATERAL CLEFT LIP AND PALATE WITH SEVERE FUNCTIONAL DISABILITY

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Turkey

Objectives: To present the orthodontic treatment of a child with bilateral cleft lip/palate (CLP) and accompanying severe facial deformity.
Subjects and **Materials and methods:** The main complaint of the 11 years old female was difficulty in chewing and speaking functions, discomfort due to her mobile premaxilla and psychosocial problems related with her facial deformity. She had bilateral complete CLP. She had received one lip and two palate operations between ages 1-5 years. Extraoral examination revealed flat nasal tip, absence of columella and extremely stretched upper lip due to prominent scar tissue. She had a convex profile and disability to chew and smile. Intraorally, bilateral Class II molar relationship, congenitally missing maxillary left and right lateral incisors with increased overbite were observed. Maxillary midline was deviated 2 mm to the left and mandibular midline 2 mm to the right side. Cephalometric examination revealed 17º ANB and 31º GoGnSN angle. Maxillary incisors were extremely retroclined.
Orthodontic treatment started by expansion with quad-helix appliance followed by intrusion utility arch. After eruption of permanent teeth fixed orthodontic appliances were bonded and maxillary right second premolar was extracted as there was no space for it. After alignment, maxillary central incisors were moved left and space was opened for the maxillary right lateral and central incisors. At the end of orthodontic treatment, a transpalatal arch with a bar extending to the palatal surfaces of the upper teeth and edentulous area was used to replace the missing teeth. Essix retainers were used in both arches to prevent relapse.
Results: Proper overjet and overbite were obtained, incisor angles were corrected and sufficient speaking and chewing functions were achieved in a 32 months total treatment time.
Conclusions: In the treatment of patients with CLP, it is recommended to apply case specific orthodontic procedures to obtain satisfactory treatment results.

Keywords: cleft lip palate, facial deformity

55. ALVEOLAR ARCH ASYMMETRIES IN ORTHODONTIC PACIENT

Daniela Anistoroaei, Loredana Golovcencu, Georgeta Zegan
Romania

Introduction: The lack of perfect symmetry of dentofacial complex is wellknown. The pacients with malocclusons tend to have more asymmetry. Early diagnosis and treatment of dento-alveolar arch asymmetries is very important because could minimize a late complex treatment.
Materials and methods: The aim of the study was to compare the degree of intra- and interarch dento-alveolar asymmetry among orthodontic patients. The sample comprised pretratament dental casts of 53 pacients, aged between 12 and 20 years who asked for orthodontic treatment. All subjects had no evidence of any syndrome, craniofacial malformation, or obvious facial asymmety. Landmarks (cusps of central incisors, premolars and molars) and maxillary and mandibular reference lines were constructed and used for transverse intraarch asymmetry measurements. Chi-square tests were computed to determine the interarch correlations.
Results: and Discussion**:** The asymmetries had similar manifestations in maxilla and mandible in the study group. Statistically significant correlations between measurements were obtained only in maxilla between premolar and molar landmarks (p - 0,000). In the study group the transversal asymmetries were similar at the different dental reference points, in maxilla and mandible; no statistically significant correlations were founded between studied dental landmarks which may incriminate the local influence to generate and compensate the intra-arch asymmetries.
Conclusions: For the study group, asymmetries in the transverse direction manifested similarly for different reference points, both in the maxillary and the mandible, without significantly similar associations between the majorities of the reference points used for measuring the asymmetries. This could mean local causes have a role in producing and compensating for inter-arch asymmetries

Keywords: ALVEOLAR ARCH, ASYMMETRY, TRANSVERSE PLANE

56. A CRITICAL EVALUATION OF META-ANALYSIS IN ORTHODONTICS

Snezana Raznatovic, Dzenad Ganjola

Introduction: The aim of this systematic review was to investigate the topics in orthodontics that currently provide the best evidence, as documented by meta-analyses, by critically evaluating and discussing the methodologies used in these studies.
Materials and methods: Several electronic databases were searched, and hand searching was also done to identify the corresponding meta-analysis studies dealing with orthodontic-related subjects. In total, 67 studies were retrieved initially. After applying specific inclusion criteria, 14 orthodontic-related articles were identified as meta-analyses.
Results: Many of these 14 articles followed appropriate

meta-analytic approaches to quantitatively synthesize data and presented adequately supported evidence. However, the methodologies used in others had weaknesses, limitations, or deficiencies. Consequently, the topics in orthodontics that currently provide the best evidence, as documented by meta-analyses, include issues concerning maxillary protraction treatment, prevention of posterior crossbites, reliability of lateral cephalometric measurements, correlation between anterior tooth injuries and magnitude of overjet, correlation of external apical root resorption with treatment-related factors and type of tooth movement, and prevalence of tooth agenesis.
Conclusions: Currently, for only a few orthodontic topics is there adequately supported evidence. More well-conducted, high-quality studies are needed to produce strong evidence in orthodontics

Keywords: orthodontics, meta-analysis

57. MALOCCLUSION AND ITS IMPACT ON QUALITY OF LIFE OF SCHOOL CHILDREN

Olga Djuric, Dzenad Ganjola

Background**:** Malocclusion, though not life-threatening, is an important public health issue, which has a large impact on the individual, causing discomfort, social and functional limitations.
Objective: To evaluate objectively orthodontic treatment needs in Montenegrian schoolchildren and the impact of malocclusion on their quality of life.
Materials and methods: This cross-sectional study involved schoolchildren aged 12 to 16 years from four randomly selected secondary schools in Montenegro. A prestructured questionnaire was administered and a clinical examination was conducted. Occlusal status was assessed for each subject using the Dental Aesthetic Index (DAI). Oral Health Impact Profile-14 (OHIP- 14) was also evaluated.
Results: There were 410 (50.9%) females and 395 (49.1%) males aged 12 to 16 years. Mean age was 14.5±1.3 years. Irregularity of teeth was the most prevalent malocclusion. Generalised spacing and midline diastema were seen in 59% and 31% respectively; crowding in 43% of the schoolchildren. Other occlusal anomalies were recorded. There was no statistically significant difference between the sexes. Over one third of the study population did not need treatment, treatment was mandatory in 24.3%, elective in 21% and highly desirable in 17%. More females than males did not need orthodontic treatment. Oral conditions had no effect on the quality of life of 85.3% of the study sample.
Conclusions: Most Montenegrian schoolchildren were found to have a dental appearance that needed orthodontic treatment. However, components of the oral conditions impacted on the quality of life of a few subjects. Psycho-social need is very important in orthodontic diagnosis.

Keywords: malloclusion

58. PERIODONTAL STATUS OF PATIENTS WITH CROWNS AND ORTHODONTIC APLLIANCES

Jasmina Milic, Esad Kucevic, Srdjan Postic, Natasa Randjelovic
Serbia

Introduction: Each fixed prosthetic restorations in patients with repaired periodontal disease, it must be so designed to be on it as little dental plaque builds up and does not irritate or injure periodontal tissue, and fixed orthodontic treatment technique involves multidisciplinary treatment of gingival changes.
The study aims to investigate the effect of fixed prosthetic restorations and orthodontic appliances in patients without periodontitis.
Materials and methods: After patient instruction on proper oral hygiene, twenty subjects, ten prosthetic and orthodontic cases, and included in the study, during which were assessed included plaque index (PI), gingival index (GI), gingival bleeding index (BOP) and measuring the depth of the pocket. The indices were registered immediately before setting the metal-ceramic bridges and orthodontic treatment technique right port, then after a month and a half years since the therapeutic repertoire of meziobuccal point representative of each group of teeth in upper jaw.
Results: The results of the values, using t-test (p = 0.05), the plaque index (PI) show a rise of each tooth, with a maximum amount after six months. The values of gingival index (GI) are less statistically increased, while the value of IBG, administrative straight time and significantly increased in the lateral region. Also in the premolar-molar region it was dominant by the values calculated by the depth of pockets, but they are statistically insignificant.
Conclusions: Crowns and orthodontic treatment technique right port, adversely affect the gingival-periodontal architecture, the creation of new retention sites for the accumulation of dental plaque.

Keywords: Periodontal tissue, crowns, orthodontic, dental plaque

59. RB STIMULATOR - EARLY ORTHODONTIC TREATMENT OF NEWBORN WITH BILATERAL CLEFT LIP AND PALATE

Julija Radojicic, Tatjana Tanic, Gordana Filipovic
Serbia

Cleft lip and palate (cheilognathopalatoschisis) are very difficult inborn anomalies. They appear very early, between 4th and 12th week of intrauterine development. The 7th week of intrauterine development is especially critical because of the secondary palate formation.
The purpose of this study is to provide basic information about difficulties in feeding newborn infants who have bilateral cleft lip and palate, as well as to help with overcoming the problem using adequate orthodont therapy. Early orthodontic treatment based on the application of RB stimulators enables the function of

nourishment, directs the separated alveolar segments towards the center of the cleft and helps improve the surgical conditions in infants born with the cleft palate and lip anomaly. This therapy is based on the principle of 'growth compensation' during the first year of life when development is the most intense and the physical alterations of the cleft segments are the most prominent.
The basic aim of this research is to estimate the significance of RB stimulator in the treatment of anatomical defects of hard and soft palate in order to enable uninterrupted nourishment of the newborn with bilateral cleft lip and palate and facilitate the subsequent intervention. The study presents the procedure of palatal opturators production and their course of changing in arrays in a male newborn infant suffering from bilateral cleft lip and palate. The first palatal opturator gets produced 24 hours after birth and then they are produced every week in succession. Cast taking is an important phase in the opturators production and the inventors emphasize the fact that it is done without any anesthesia. The basic function of RB opturator is separation of the mouth cavity from the nasal one and that enables the forming of negative pressure in the mouth cavity. In that way a newly born child can be nursed (natural) and fed from a bottle (artificial). The opturator provides shorter feeding time and a larger quantity of taken food which influences normal growth of a baby.
Producing palatal opturators without extraoral fixation makes this study a special one.

Keywords: cleft lip and palate, stimulator

60. MULTIDISCIPLINARY TREATMENT OF IMPACTED AND MISSING TEETH: CASE REPORT

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Turkey

Introduction: A tooth that is not expected to erupt in a reasonable time is termed as an impacted tooth. Impaction of teeth is a disorder which is frequently met in the orthodontic practice. Tooth agenesis, the congenital absence of at least 1 permanent tooth, is the most frequently encountered dental anomaly. In this case report multidisciplinary treatment of a patient who had impacted and missing teeth is presented.
Case report: The clinical findings of the patient with 15 years 5 months of chronological age were straight profile, 1 mm overjet and 2 mm overbite, impacted maxillary left canine and missing maxillary left lateral. In the cephalometric evaluation – 0,5° ANB angle, decreased GoGnSN angle, retrusive upper and lower incisors were noticed. Orthodontic treatment plan involved extraction of the upper right first premolar, lower right and left first premolars and orthodontic traction of upper left canine. The treatment initiated with transpalatal arch and impacted tooth was surgically exposured. The canine was erupted in 1 year and 2 months. After the teeth were aligned the lateral bracket was bonded to the canine and the canine was stripped in order to mimic a lateral incisor. Orthodontic treatment was completed in 2 years and 7 months. After orthodontic treatment essix retainers were applied to both arches. A composite laminate veneer restoration was accomplished in order to make the canine look like a lateral incisor.
Conclusions: Early diagnosis of tooth agenesis and tooth impaction allows the orthodontist to present multiple treatment options to the patient. As observed in this case, the impacted tooth was erupted in the laterals' position and shape of the tooth was restorated with multidisciplinary approaches.

Keywords: tooth agenesis, impacted tooth, orthodontic traction

61. DENTAL INFECTIONS ASSOCIATED WITH ALOPECIA AREATA – A CASE REPORT

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Albania

Introduction: The frequency and complications of chronic periapical procesess in children mainly in primary teeth are very important problems in pediatric dentistry.Evaluating carefully all the treatment methods of chronic periapical process,will lead to the prevention of many complications including alopecia areata.
Materials: A.Z 9 years old (with mixed dentition),is presented for treatment after the visit and the recommendation from the dermatologist.There were three zones where hair had fallen and by the panoramex,there were noticed not treated cariese,accompanied by periodontal complications.
Method: According to the panoramex and to the age, there was created the plan of treatment.There were extracted the first temporary molars with periapical problems and there were cured the second temporary molars.
Conclusion: After the appropriate endodontic treatments,a month later there was noticed that those zones had started to be filled.

Keywords: alopecia areata, children, caries

62. REASONS FOR TEETH EXTRACTIONS IN CHILDREN IN PODGORICA

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Montenegro

Introduction: The widespread oral disease of modern society is caries. Montenegro is in the line of countries in transition with high caries risk in children population. The preventive dental protection in Montenegro is organised on the level of public health institutions. It is regulated with Low on health institutions. According to this Low, preventive dental program are organised for pre-school and school children up the age of 18.
Extractions, together with caries, are in the unenviously high position of already high dmf-DMF index structure. That is due to nonexistence of system in the state level for

providing and carryng out of preventive dental measures, and consequently to nonexistence of our population's conscience for importance of good oral hygiene and dietetic measures.
Aim**:** We wanted to investigate the main reasons for extractions of deciduous teeth in our patients, who attended Clinical Center of Montenegro.
Patients and Metods**:** Sample is formed of patients that attended Clinic due to tooth extraction in period from march 2010. to march 2011. Totally 300 patients, aged between 6 and 18 years, were treated.
Results: of our study are processed and represented by descriptive statistics during observed period totally 300 deciduous and permanent teeth were extracted. As reasons for extraction dominated caries (43,31%), time of exfoliation (30,12%) and orthodontic reasons (15,02%).
Permanent teeth were mainly extracted due to caries, and deciduous due to exfolation's time.
Conclusions: Teeth extractions are still in the very high position concerning dental services provided in our country. Children in Podgorica are more affected with caries and with less favourable structure of DMF. Therefore it is necessary to implement the system of primary health care and to find a solution to this problem.

Keywords: teeth extractions, children

63. A COMPLICATED DENTAL TRAUMATIC INJURY INCLUDING THE MAXILLARY ANTERIOR REGION: A CASE REPORT

Mehmet Tanriver, Tamer Tuzuner, Ozgul Baygin, Tamer Tasdemir
Turkey

Aim**:** In this case report the management of the injury resulting from a complicated dental trauma to the upper anterior region affecting the anterior teeth of a child under orthodontic treatment is presented.
Case report: An eleven year-old boy with an avulsed upper right, an extruded left central and laterally luxated left lateral incisor referred to our clinic 3 hours after a complicated dental trauma. The apical thirds of the central incisors were obturated with MTA plugs after having completed the root canal treatments extraorally. Then the necrotic ligament remnants were removed. Semi-rigid splint was applied following the repositioning of incisors. Two weeks later pulp necrosis was observed in the left lateral incisor thus root canal treatment was performed. Although no problem was associated with the avulsed right central incisor, the left central incisor in which the resorption process did not cease, had to be extracted 12 months after trauma. Fiber reinforced bridge was applied in the extraction region until the completion of growth and development.
Conclusions: In addition to regular clinical and radiographic follow-up in complicated dental traumas, combined treatment procedures may have to be applied taking into consideration of patient's age, referral time, type of trauma encountered and status of dentoalveolar region.

Keywords: Dental trauma, avulsion, intentional replantation, MTA

64. THE MIXED TREATMENT, SURGICAL AND ORTHODONTIC, OF IMPACTED MAXILLARY TEETHS, CAUSED BY MESIODENS – CASE REPORT:

Mpampametis Antonios, Lazar Cristina Fulga, Stoica Tunde Eniko
Romania

Aim**:** To describe the treatment of maxillary central incisor and maxillary lateral incisors displaced and impacted because of the presence of one mesiodens. Mesiodens is the most frequently found extra tooth, with a prevalence in the general population of 0.15-1.9% causing various complication. Supernumerary teeth are most frequently seen in the maxillary anterior and molar region. The supernumerary teeth that occur between or just posterior to the central incisors are referred to as mesiodens. Supernumerary teeth can occur in bouth dentition but are more frequently seen in the permanent dentition. In this case the right maxillary lateral and central incisors were impacted.
Case report: One nine years old patient presented no eruption of the maxillary central and lateral incisors. The clinical and radiological examination revealed the two maxillary teeth impacted and displaced. This was caused by the presence of one mesiodens.
Surgical removal of the mesiodens has been done and also the exposer of the maxillary right central incisor and the right lateral incisor was performed. The surgical treatment was followed by orthodontic treatment which involved the traction of the maxillary central incisor and maxillary lateral incisors to the occlusal plane and the aligning of the two impacted teeth.
Results: the supernumerary teeth could be surgically removed and the maxillary central and lateral incisor were brought to the occlusal plane and aligned.
Conclusions: the combined interdisciplinary treatment, surgical and orthodontic, yielded good esthetic and periodontal results. The mesiodesns could be extracted, and the two maxillary impacted teeth could be aligned.

Keywords: mesiodens, impacted teeth, surgical treatment, orthodontic treatment, exposer, aligning

65. GINGIVOSTOMATITIS HERPETICA IN CHILDREN – EXPIRIENCE OF OUR INSTITUTION

Kemal Sahmanovic
Montenegro

Oral infections caused by herpes simplex type 1 are widespread, even among otherwise healthy people. While most of these herpetic infections are asymptomatic, young children are at risk for developing extensive

oropharyngeal vesicular eruptions when first infected with the virus. Although a self-limiting disease, this oral infection can cause significant mouth discomfort, fever, lymphadenopathy, and difficulty with eating and drinking. Early infection is hard to diagnose especially by the pediatritian.
I conducted a retrospective study and analysed children that visited dental policlinic in Podgorica in last three years with symptoms of gingivostomatitis and acute viral infection. There were 47 patients with herpetic gingivostomatitis, most of them clustered in spring and autumn months. Among them, 36 children was preschool age. Eleven children required hospitalisation because of severe form of the disease. The average number of visits to dental clinic was 5.
Conclusions: Prompt and adequate diagnosis and therapy are of crucial importance in treatment of herpetic gingivostomatitis in way that the number of hospitalized children and complications can be decreased.

Key words**:** gingivostomatitis herpetica, children, herpetic infections

66. OPPORTUNITIES IN ADULT ORTHODONTIC TREATMENT

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Republic of Moldova

Introduction: Today, the orthodontic treatment is a viable option for almost any adult. The number of adult patient who need orthodontic treatment is growing. The orthodontic treatment for adults is part of a complex dental treatment. Despite the fact that the result is not immediately, compared with children, however, good results can be obtained.There are no fundamental differences between children and adult orthodontic treatment. It is necessary to mention that the dental displacement are the same in any age. During the orthodontic treatment for adults may be some difficulties, which are the cause of physiological and psychological status of the patient. It is known that the non treatment of orthodontic problems, they may be worsen. In the cases of malocclusion, the teeth may be crowded, excessively spaced or do not fit into bite.
Materials and methods: The study have been made for a number of 9 patients aged between 27 and 57 years of which four men (representing 44.4%) and 5 women (representing 55.6%).
Patients were diagnosed with various types of malocclusion;

- vertical, 2 patients (representing 22.2%);
- sagittal, 4 patients (representing 44.5%);
- transverse, 3 patients (representing 33.3% of study group).

Based on considerations of patient age and their impact on different methods of orthodontic treatment were used practically the same methods of treatment for each patient**:** the adhesive technique. For treatment was applied the fixation technique (Straight Wire).
Conclusions: In the diagnosis of dento-maxillary abnormalities is necessary to involve new methods and technologies that would minimize the effort of the orthodontist and bring remarkable results. Analyzing the results of orthodontic treatment for adults it is possible to say that the adults can enjoy the full range of modern orthodontic service

Prevention

1. COMPARATIVE STUDY OF DENTAL MANAGEMENT APLICATION IN CONSTANTA

Corneliu Amariei, Cristina Nuca, Victoria Badea, Mircea Grigorian, Francisc Florin Bartok
Romania

Introduction: For alignment the Romanian dental practice to European standards, assessment and improvement of the current practices in management is essential. The aim of the study is to evaluate, based on a questionaire provided by Dental Ergonomics Society and accepted by the ethics council, the level of knodlegdes and application of dental management in the officies from Constanta, Tulcea, Braila Counties.
Materials and methods: The study was conducted on a representative sample of 57 dentists from each county (95% CL 12% sampling error), the evaluation was done using a questionnaire completed face-to-face, which contains 20 indicators that assessed their management knowledge. Selective sampling was conducted for those who will be included in the study and their written consent was obtained.
Results: 21.1% of the respondents from Constanta hold an LLC, 47.2% Tulcea and 24.5% Braila, in Constanta 68% are self-employed practitioners, 47.2% Tulcea and 71.7%, Braila; 45.6% of Constanta's subjects participated at dental management courses, 56.6% from Tulcea and 34% from Braila; 95% believe that universities are not concerned about management courses, only 75.4% of Constanta believes that the office management should be done by a trained person, 24.5% Tulcea and Braila; 36 8% of Constanta made a monthly budget, Tulcea 7.5% and 11.3% from Braila; 26.3% of Constanta's offices own written procedures for management, 7.5% Tulcea and 11.3% Braila; 45.6% of Constanta's dentists hold patient management systems, while only 18.9% of Tulcea and Braila 20.8% have one.
Conclusions: Study results demonstrate the need to increase the level of knowledge about dental management of the dentists.
Acknowledgements**:** This work was funded by POSDRU/81/3.2/S/55651 project.

Keywords: management, ancheta opinie, dental practice

2. PROSTHETIC NEEDS OF ADULTS OVER THE AGE OF 20 IN BULGARIA

Boyko Bonev

The aim of the study was to determine the number of missing and restored teeth of a person over the age of 20 years in Bulgaria, as well as the used types of dentures. The author presents an epidemiological research involving 1636 persons, from thirteen cites in Bulgaria. The average age of examined people was 39,6 years. The study was conducted over a period of three years (2006-2009). From the survey done attention should be drawn to the following results**:** on the upper jaw 9% of all teeth were replaced with dentures. On the lower jaw were replaced 7% of all teeth. We found that 2,22 teeth on average were missing and not recovered per person. There were statistical links between age and number of replaced teeth. The teeth that were replaced increased with age. 43% of used dentures are acrylic RPD (removable prosthetic dentures), the use of which gets worse oral hygiene, leads to periodontal overloading of existing teeth and do not contribute sufficiently to improving quality of life

Keywords: epidemiology; prosthetic needs; RPD

3. LOSS OF NATURAL TEETH IN ADULTS OVER THE AGE OF 20 IN BULGARIA

Boyko Bonev

The main objective of the study was to determine objectively the number of natural teeth of people over the age of 20 years. 1636 people of thirteen cities in Bulgaria were examined (54.6% male and 45.6% female). The study was conducted during the period 2006 – 2009. By age groups we found that there was a statistically significant relationship between age and the number of missing teeth. The number of missing teeth at the age of 20-29 years was on average 2.25 per person while at 60-69 years it increased to 16.98. It was found that on average each person had 5 missing teeth. Tooth 36 is extracted most often in 40.73% of all cases. Most rarely missing teeth are canine in the mandible- tooth 43 – 4.89% of all cases. In 52% of cases the reason for extraction is caries followed by periodontal disease. The study showed that the extraction of teeth because of suspected religious and ethnic reasons is not popular among the Bulgarian population. From the results can be drawn the following conclusions**:** most often missing lower first molars; dental caries and periodontal diseases are the main reasons for extraction of teeth.

Keywords: dental status, extraction, missing teeth

4. QUALITY OF LIFE AMONG DENTAL STUDENTS IN IASI, ROMANIA

Alice Murariu, Carmen Hanganu, Adina Armencia
Romania

Introduction: Quality of life is a concept with multiple implications that reflect in physical, emotional and social life of the subjects. The research in the domain of the relation between life quality and oral health is made on the basis of social-oral-dental indicators, defined as the evaluation of the way that oral health disturbs the social functionality.
Aim**:** The aim of this study was to investigate the impact of oral health status on the quality of life of students of Faculty of Dental Medicine (5th and 6th year), Gr. T. Popa University of Medicine and Pharmacy, Iasi.
Materials and methods: Data were collected from convenience sample of 245 students (age range**:** 23-27 years; 62% females and 38% males). The students were clinically examined according to the World Health Organization criteria. Oral health-related quality of life was assessed with the short version of the Oral Health Impact Profile (OHIP-14). Data were analyzed with SPSS 17 for a statistical significance level of 0.05. Spearman correlation coefficients were computed to assess the relationship between the OHIP-14 questions and the clinical and social indicators.
Results: The most affected quality of life dimension was psychological discomfort (OHIP 5) reported by 129 students, (53%), most of them, female (77, 60%). The least affected dimension was physical disability reported by 4% of students. Significant correlations were found between OHIP-5 score and oral indicators DMF-T (r=0.410) and need for dental treatment (r= 0.447). No significant correlation was found for the socio-demographic indicators**:** „age, „gender and „smoking status.
Conclusions: Data showed that significant percentages of the students surveyed had impaired oral health-related quality of life only from psychological discomfort (self conscious) about oral health status, associated with low health conditions, DMF-T score over 5 and need for dental restoration.

Keywords: oral health, quality of life, OHIP14, dental students

5. DENTAL STATUS OF CHILDREN IN THE REPUBLIC OF MOLDOVA

Aurelia Spinei, Iurie Spinei, Ion Lupan, Nina Shevchenko, Ludmila Gavriliuc
Republic of Moldova

This paper seeks to assess the indices of dental caries in 6, 12- and 15-year old children in Moldova.
Materials and methods: The clinical material of this work is the data from the investigation of 2461 children, 6-, 12- and 15-year old, from urban and rural areas, 91.23% of whom were born and reside permanently in the same locality. Group1 included 840 children from areas with a concentration of fluoride in drinking water within the limit (0.8-1.2 ppm); group2 - 809 children from areas with this concentration below the limit (0.4-0.6 ppm), and group3 - 812 children in areas with excessive concentrations of fluoride in drinking water (3.3-14.0 ppm). Dental status was assessed against WHO criteria. Caries experience was evaluated by estimating the prevalence index (PI) of dental caries, dmft, DMFT and Sic10 index.

Results: The prevalence index of dental caries in group1 was**:** 76.07% in children of 6; 79.81% - 12 years old, and 84.81% - 15 years old. In group2 PI = 88.44% in 6-year old; 82.95% - 12-year old, and 94.82% - 15-year old. In group3 PI = 58.04% in 6-year old; 44.30% - 12-year old, and 41.77% - 15-year old.
DMFT index values are in group1**:** 0.63 ± 0.14 at 6; 3.27 ± 0.18 at 12, and 3.92 ± 0.16 at 15. In group2 DMFT = 1.58±0.21 at 6; 5.08±0.26 at 12, and 6.43±0.31 at 15. In group3 DMFT = 0.09± 0.11 at 6; 0,56±0,18 at 12, and 0,69±0,14 at 15.
Conclusions: The study revealed high indices of dental caries found in children from areas with fluoride concentration in drinking water below normal, especially in children from rural areas; the need for preventive programs that will help reduce the presence of dental caries is obvious.

Keywords: dental caries, fluoride, drinking water

6. EVALUATION OF STATUS, KNOWLEDGE LEVELS AND ATTITUDE OF STUDENTS IN YEDITEPE UNIVERSITY FACULTY OF DENTISTRY ON HEPATIT B INFECTION

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Turkey

Introduction: The aim of this study was to evaluate the dental students knowledge and attitude about infections transmitted by blood and body fluids, infection control measures, hepatit B virus infection and their serological and hepatitis B vaccination status.
Materials and methods: A questionnaire prepared to measure the knowldge levels about infections transmitted by blood and body fluids, infection control measures, hepatit B virus infection, serological and hepatitis B vaccination status of 261 students, educating at University of Yeditepe, Faculty of Dentistry in 2010-2011 academic year was distrubuted.
Results: The mean age of the students were 21,29 and 123 of them (%47,1) tought that they were at risk in terms of Hepatitis B virus (HBV). It was determined that 207 students vaccined against to HBV, and of them 142 (%54,4) had controlled their HBV serologies. Seven students stated that they are HBV carrier. It was determined that the ratio of female students that control their HBS serologies and completion of HBV vaccination are significantly higher than male students ($p<0.01$). It was observed that the number of students who perceived themselves at risk, got tested and developed a protective immune response showed a significant increase in the upper grades ($p<0,01$). While there was a significant difference between the preclinic students and clinic students in terms of the level of general information on infections that are transmitted by blood and othe body fluids, there was no significant difference among the two groups of students in terms of the level of information on risky procedures and preventive care.
Conclusions: Dental students must be completed their hepatitis B virus vaccination in the first year, and their knowledge about infections transmitted by blood and body fluids and hepatitis B virus should be measured regularly and the number of education programs about current sterilisation and disinfection procedures must be increased.

Keywords: Hepatit B virus, infection, knowledge level, dental students

7. ORAL HYGIENE OF BRIDGES AND FIXED ORTHODONTIC APPLIANCES

Esad Kucevic, Jasmina Milic, Natasa Randjelovic, Srdjan Postic
Serbia

Introduction: Treatment of metal-ceramic bridges and orthodontic appliances creates a number of activities involving information on procedure, treatment, duration of therapy orientation, the inevitable controls and a special regime of oral hygiene.
The aim is to present the means for maintaining oral hygiene in patients with metal-ceramic bridges and orthodontic appliances.
Materials and methods: Recommending measures to prevent the accumulation of plaque, various antiseptic solutions were advised, and individual and finished products made from local anesthetics and substances helping the eventual epithelialization.
Results: The results obtained in this study, in cases of lack of rigorous oral hygiene imposed the possibility of the following risks**:** the creation of decalcification's areas - shaped white spots, the development of dental caries, loss of vitality of teeth, root resorption, resistance to movement, adversely impacted tooth enamel fractures when removing a glued bracket, injury to the buccal mucosa of brackets or rings. Because of that recommended specially designed brushes with carved into the middle fibers, to remove the food in gingival and interdental spaces and usage of dental super floss for cleaning arches with thick spongy part to clean plaque on the predilection sites, under the arches, the solution is tested for two-color detection of dental plaque.
Conclusions: Maintaining oral hygiene is manifested in dentoalveolar structures and the suprema lex - the most important law and the first prerequisite for a definite success, in patients with bridges and orthodontic appliances.

Keywords: Plaque, oral hygiene

8. IMPACT OF INHALED CORTICOSTEROIDS ON DENTAL PLAQUE PH IN ASTHMATICS

Emilia Karova
Bulgaria

Introduction: Combination of inhaled corticosteroids and long-acting sympathicomimetics is up-to-date treatment

of bronchial asthma. Together with their gustatory correctors they might change acidity in oral cavity.
Materials and methods: Thirty asthmatics and 40 controls between 20 and 55 years of age were examined on two visits witin six months interval.
Asthmatics were divided in three groups of 10 patients treated with Seretide, Symbycort and Foster. Measurements of dental plaque pH were made with Dental Beetrode NMPH3 and pH meter Hanna 211 in interdental sites of 14, 24, 34 and 44 teeth in 30 minutes interval.
Results: There were no statistical differences between the dental plaque pH values of asthmatics and controls and between the results on the two visits. Measurements for upper jaw were significantly lower than that of the lower one for all participants and for patients treated with Seretide and Symbycort. ($p=0.045$, $p=0.021$).
It was found out that in both visits the inhaled medicaments cause significant decrease of initial pH values, the lowest reported on first and fifth minute after the inhalation. ($p<0.05$) After the sharp drop a tendency of increasing of pH was observed up to the 30th minute but it couldn't reach the initial rates and remained significantly lower on the second visit and for patients treated with Seretide. ($p=0.039$).
Conclusions: There are no essential differences in dental plaque pH values in asthmatics and controls. Upper jaw pH results are significantly lower from lower ones. Inhaled corticosteroids lead to considerable decrease of pH values on both visits, especially on first and 5th minutes. This process is followed by gradual rise of pH up to the 30th minute. Inhalation of Seretide in comparison with the other two medicaments led to most significant decrease of plaque pH values and acidity remained high for a long time.

Keywords: asthma, inhaled corticosteroids, dental plaque pH

9. USE OF PUBLIC DENTAL HEALTH CARE SERVICE AMONG PREGNANT IN BELGRADE

Irena Dzeletovic Milosevic, Slobodan Tosovic
Serbia

Introduction: Pregnancy is very important part of woman's life.Devotion to baby's health and their own health is conditio sine qua non. But Oral Health during pregnancy is neglected more than in other part of life. In spite the number of pregnant in Belgrade is continiously decreasing, Serbian capital with over 1.574.000 inhabitants has more than 10 % pregnant women. Serbian National Health Care and Health Insurance laws are covering all pregnant oral health care costs in purpose to improve oral health status among pregnant and their children as basic step of National Preventive Dental Health Program, which has been launched in 2010 year. Aim**:** Purpose of this paper is to show pregnant use of dental health service in Health centers in public sector in Belgrade.
Materials and methods: and material**:** It is social medicine study based on analysis of routhine statistical surveys in period 2006-2010 year in Belgrade of pregnant dental health care service use.
Results: In 2006 year in 16 Belgrade Health Centers owned by State of Serbia 45,8% of all Belgrade pregnant were dental checked up, 28,8% reported Oral health problem;14,65 % pregnant were under dentist's therapy and 23,8% were using fluorides. In 2010 year 52,3% pregnant were checked up, 17,1% were under dentist's therapy, and 22,7 % were using fluorides.
Conclusions: Use of Public Dental Health Care Service among pregnant in Belgrade and awareness of importance of oral health among Belgrade pregnant are in increasing trend. That is very important to total health and their baby health. Increasing awareness of importance of oral health is still one of the most important part of healthy smiles of Serbian population.

Keywords: pregnant, use, dental health service

10. SMOKING KNOWLEDGE, ATTITUDE AND BEHAVIOR AMONG ROMANIAN ADOLESCENTS FROM BUCHAREST – A PILOT STUDY

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Romania

Introduction: Tobacco addiction represents the single most preventable cause of disease and death in the world today. The aim of this study was to assess the knowledge, attitude and behavior of Romanian adolescents aged 12-16 from Bucharest.
Materials and methods: A cross-sectional study was conducted in 2010 among 281 schoolchildren from 4 randomly selected schools in Bucharest, using an anonymous questionnaire; the ethical committee's approval and informed parental consent were obtained. The data were analyzed using descriptive statistics.
Results: The response rate was 100%, of which 54% were female; the mean age was 13.62 (SD 0.92). The overall prevalence of smoking was 16%, the proportion of smokers was bigger in the 14 yr group (34.5%), and the same in the 15 yr and 13 yr groups (27.5%). Smoking was more prevalent among female adolescents (58.6%) than male. Tobacco smoking started at age of 11 for 14.3%, at 12 for 25%, at 13 for 43.5% and at 14 for 10,7%. The reasons for starting to smoke were**:** peer influence (41.4%), out of curiosity (31%), desire to relax (10.3%), and desire to feel special (7%). Most of the smokers (58.6%) had tried to quit smoking and 89.7% believed that they were able to quit anytime. Their motives for quitting this habit were**:** hazard to health (42%), lung affection (20%), tooth staining (8.8%), addiction (5.5%) and unpleasant odour (2.8%). The majority of adolescents were not aware of the influence of smoking on oral health (72%), only 23.8% of them knew about tooth discoloration, 3.4% knew that increases the accumulation of calculus, and only 0.6% knew that it can lead to oral cancer, stomatitis and periodontitis.
Conclusions: Smoking cessation programs are needed in

Romanian schools in order to inform adolescents on tobacco and health issues, and to teach them different strategies to quit smoking.

Keywords: behavior, smoking, adolescents

11. BACTERIAL CONTAMINATION OF STETHESCOPES USED IN THE DENTAL FACULTY CLINICS

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Turkey

Introduction: The term cross-infection refers to the transfer of micro-organisms from a person or object, to another person that result in infection. It is distinguished at from cross-contamination, which is transfer of micro-organisms from one person or object to another person that may or may not result in an infection. Cross-contamination can also apply to the transfer of potentially infections microorganisms from one object to another. It is important in any discussion of cross-infection control to distinguish between the two terms. There are many potential routes of transfer in those involved in the care and treatment of both medical and dental patients.
Ideally, it would be helpful to know what patogens a person was carrying prior to medical and dental treatment. In practice, this is almost impossible as the patient may be an asymptomatic career to disease, especially in the dental treatment offices. The transmission of infection in dentistry is possible, by four main routes. These are, contact, ingestion, inhalation and inoculation. Contact may involve direct transfer from skin to mucous membranes in the later case saliva or etc, may be involved. Direct contact can result in the transfer of herpes and Staphylocci.
Materials and methods: Culture specimens from 80 stethescope diagram of both dentists and nurses were obtained by pressing them directly onto blood agar and EMB agar plates and incubated or 48 h under 37C conditions.
Results: It was founded that, about half of the stethescopes 42 (%52.5) were contaminated by one or more bacteria. The most frequent isolates obtained were coagulase negative Staphylocci 37 (%46.25), followed the by diptheroids 8 (%10), Bacillus subtilis 4 (%5) and Acinetobacter spp 3 (%3.75).
Conclusions: It was concluded that stethescopes could be vectors of nasocomial infections and bacterial contamination may spread via using of undisinfected stethescopes

Keywords: bacteriology

12. ORAL HEALTH 15 YEARS OLD CHILDREN IN MONTENEGRO

Mirjana Djurickovic
Montenegro

Introduction: Oral health is very important for the function and the quality of peoples life.The aims of this study were to establish the spears of caries on the permanent teeth with the children at the age of 15 in Montenegro.
Materials and methods: The research was included 475 primary school pupils of both sex,the age of 15 in Nothern,Midlle and Southern area of Montenegro.Examinations have been done out by one calibratet examiner (kappa score 0,92).The parameters that have been used for the estemate of the oral health condition were**:** DMFC.SiC and presence of sealants.One dental team clinicaly examined all subject in line with WHO methodology and criteria.All chosen children from the sample were checked by the standard dental diagnostic eqipment (plane dental mirror,standard CPITN periodontal probe),under the artificial light on the dry teeth on the dental chair.
Results: The average value of Index DMFT at the 15-years-old in Montenegro was 5,35.On average,93,05% of the egxamined children from this sample had dental caries.Percentage of non treted caries was 39,58%, percentage of filled was 46.67% and missing teeth was 13.75%. The SiC Index was 10.81. Among the examined children, 12.03% had at least one tooth with a fissure sealant.
Conclusions: After these epidemic researches we can conclude that the oral health condition with the children at the age of 15 in Montenegro is not satisfoid. In accordance with this is should be emphasized the importance of the modern preventive measures and programs and apply through the system of the primary oral protection and work intensively on the promotion of the oral helth.

Keywords: oral health, children

13. EVALUATION OF STATUS, KNOWLEDGE LEVELS AND ATTITUDE OF STUDENTS IN YEDITEPE UNIVERSITY FACULTY OF DENTISTRY ON HEPATIT B INFECTION

Zeynep Ozkurt, Ceyda Ozcakir Tomruk, Hare Gürsoy, Kemal Sencift
Turkey

Introduction: The aim of this study was to evaluate the dental students knowledge and attitude about infections transmitted by blood and body fluids, infection control measures, hepatit B virus infection and their serological and hepatitis B vaccination status.
Materials and methods: A questionnaire prepared to measure the knowldge levels about infections transmitted by blood and body fluids, infection control measures, hepatit B virus infection, serological and hepatitis B vaccination status of 261 students, educating at University of Yeditepe, Faculty of Dentistry in 2010-2011 academic year was distrubuted.
Results: The mean age of the students were 21,29 and 123 of them (%47,1) tought that they were at risk in terms of Hepatitis B virus (HBV). It was determined that 207

students vaccined against to HBV, and of them 142 (% 54,4) had controlled their HBV serologies. Seven students stated that they are HBV carrier. It was determined that the ratio of female students that control their HBS serologies and completion of HBV vaccination are significantly higher than male students (p<0.01). It was observed that the number of students who perceived themselves at risk, got tested and developed a protective immune response showed a significant increase in the upper grades (p<0,01). While there was a significant difference between the preclinic students and clinic students in terms of the level of general information on infections that are transmitted by blood and othe body fluids, there was no significant difference among the two groups of students in terms of the level of information on risky procedures and preventive care.
Conclusions: Dental students must be completed their hepatitis B virus vaccination in the first year, and their knowledge about infections transmitted by blood and body fluids and hepatitis B virus should be measured regularly and the number of education programs about current sterilisation and disinfection procedures must be increased.

Keywords: Hepatit B virus, infection, knowledge level, dental students

14. DENTAL CARIES AND THE LEVEL OF TREATMENT IN THE AGE-GROUP 6-15 YEARS OLD AT THE UFO UNIVERSITY CLINIC

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Albania

This study evaluates the distribution of dental caries by gender, economic level, contributing factors of caries and the level of fillings in UFO University Clinic. We have discussed this changes, especially based on gender. On the other hand, we have estimated not only the prevalence of dental caries, but also the level of its extent, especially in permanent teeth with unformed roots.
Materials and methods: We undertook a transversal study in 598 patients of 6-15 years old.
Through this study we analyzed data on the prevalence of dental caries in permanent teeth, risk factors, economic and dental services in the age-group 6-15 years old at the UFO University Clinic.
Results: After collecting and analyzing data from 598 patients, 287 were male, in whom 3078 teeth were treated and 265 were female, to which 3253 teeth were treated. Treatment for caries media and profunda occupied the highest percentage. Obviously, female presented a greater percentage caries in permanent teeth than male of the same age even though they were less. According to the results the great number of cases in female was explained by early eruption permanent teeth. On the other hand, about 89% of patients treated belonged to a lower economic status. The prevalence of caries was 52% in permanent dentition.
Discussion**: Results:** were related mainly to poor hygiene, low level sosio-economic status, female gender and early malnutrition.

Key words**:** dental caries, dental services, oral health, gender.

15. THE CROSS-INFECTION CONTROL IN DENTAL PRACTICE: EVALUATION OF PATIENT ATTITUDE AND SUSCEPTIBILITY

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Turkey

Introduction: The aim of this study was to evaluate the attitude and susceptibility of the patients who attended to Yeditepe University Faculty of Dentistry, about the cross-infection control.
Materials and methods: A questionnaire was designed to obtain information about cross-infection control in dental practices. The study population included 450 patients (277 female, 173 male) who attended to Yeditepe University Faculty of Dentistry, in December 2010. The questionnaire collected data on socio-demographic characteristics, expectations from dentists about wearing of gloves, mask, protective cap and glass, changing and renewing of these materials, and infection control procedures before treatment. Descriptive statistical methods and Chi-square test were used to analyze data. An alpha level of 0.05 was used for all statistical analyses.
Results: 100% of the patients expected from dentist to wear gloves, 98.9% of them expected to wear mask, 73% of them expected to wear protective cap, and 67.1% of them expected to wear protective glass. The 50.5% of the female respondents stated that all patients should wear protective glass, and this ratio is higher than male patients (37.6%) (p<0.05). The 65% of the female respondents thought that the masks should be changed in each patient, and this ratio is higher than male patients (53.2%) (p<0.05). The 31.4% of the female patients stated that protective glass should be changed if necessary, and 30.1% of the male patients stated that they did not have any idea about this subject.
Conclusions: The patients who attended to Yeditepe University Faculty of Dentistry were found susceptible about the cross-infection control.

Keywords: cross-infection, dental practice, patient susceptibility

16. ANTIBACTERIAL ACTIVITY OF RECENTLY SYNTHESIZED HETEROCYCLIC COMPOUNDS AGAINST ORAL STREPTOCOCCI

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România

Introduction: Several studies have already reported an increasing incidence of oral streptococci strains resistant

to commonly used antibiotics. These recent findings justify the interest in the search for new antibacterial agents. The objective of this study was to evaluate the antibacterial activity of several recently synthesized heterocyclic compounds against some clinical isolates of oral streptococci.
Materials and methods: The antibacterial action of the following compounds**:**
1- (4- (4-bromophenylsulfonyl)benzoyl)-4- (4-fluorophenyl)-thiosemicarbazide (Ca),
5- (4- (4-bromophenylsulfonyl)phenyl)-N- (4-fluorophenyl)-1,3,4-thiadiazol-2-amine (Cb),
5- (4- (4-bromophenylsulfonyl)phenyl)-N- (4-fluorophenyl)-1,3,4-oxadiazol-2-amine (Cc),
5- (4- (4-bromophenylsulfonyl)phenyl)-4- (4-fluorophenyl)-2H-1,2,4-triazole-3 (4H)-thione (Cd) and ethyl 2-{[5- (4- ((4-bromophenyl)sulfonyl)phenyl)-4- (4-fluorophenyl)-4H-1,2,4-triazol-3yl]-thio}acetate (Ce),
was tested by the broth microdilution method against 50 oral streptococcal strains isolated from oral and respiratory infections in children, in 2010. The clinical isolates belonged to 6 different species**:** S. anginosus, S. constellatus, S. oralis, S. mitis, S. sanguinis and S. parasanguinis.
Results: The MIC values (mg/l) ranged between**:** 8-256 for Cd, 16-256 for Ca, 16-512 for Cb and Ce, and 32-512 for Cc, while the values of MBC (mg/l) ranged between**:** 32-512 for Ca and Ce, 32-256 for Cd, 32->512 for Cb, and 64->512 for Cc. In case of all compounds the MBC/MIC ratios were less or equal to 4. Cd exhibited the highest degree of growth inhibition against the isolates and was closely followed by Ca. In contrast, Cc showed the lowest antibacterial activity against all the isolates tested in the present study.
Conclusions: New chemical reactions are recommended to be carried out on Cd in order to improve the antimicrobial activity of this compound. Acknowledgements**:** This work was supported by CNCSIS - UEFISCDI, project number 1136/12.01.2009 PNII - IDEI code 2652/2008.

Keywords: oral streptococci, heterocyclic compounds

Oral Surgery

1. PREVALENCE OF IMPACTED TEETHS - A RADIOGRAPFIC STUDY

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Bosnia Hertzegovina

Introduction: Aim of this study is to investigate prevalence of impacted teeths, according to type and sex. According to the literature, most common impacted teeths are third molars. One of the reasons is that third molars appear last in maxilla and mandible, when are most teeths erupted and there is not enough space in teeth's arches.
Materials and methods: The source of data for this study was 675 orthopantomographic films of patients (321 males and 354 females).
Results: The prevalence of impacted teeths is larger in mandible (55,47%) than in maxille (44,53%). Most common impacted teeth in maxille is third molar (73,68%), and lower prevalence have canine (24,56%) and first premolar (1,75%). In mandible most common impacted teeth is also third molar (92,96%), and lower prevalence have canine (2,82%), first premolar (2,82%), and second premolar (1,41%). The prevalnce of impacted teeths is larger at female patients than in male patients but there is not siginificar difference (p=0,480).
Conclusions: This study shows that most common impacted teeths are third molars which is in concordance with results in literature.

Keywords: Imapcted teeths

2. IMPACTED CENTRAL TEETH: REPORT OF FIVE CASES

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Turkey

Introduction: Impacted teeth can cause serious dental and esthetic difficulties as well as psychological problems especially in the anterior part of maxilla. Impaction of the maxillary central incisor is a very rare entity and poses a therapeutic challenge to the practitioner as it plays an important role for facial esthetics.
Case report: In this case report, 5 cases of maxillary incisor impaction were presented. Two patients were male and 3 patients were female. The age range was between 15 and 27. Out of five teeth, 3 teeth were diagnosed incidentally during radiographic evaluation. The rest of them caused pain and swelling on the anterior maxilla. In one case impacted central tooth was associated with an odontoma. Treatment options were extraction for 4 patients and observation for one patient.
Conclusions: An impacted tooth may appear blocked by another tooth, bone or soft tissue, but the cause of tooth impaction is often unknown. Odontoma, supernumerary teeth, dental trauma, loss of space and crowding are the etiological factors for impaction. Other causes are crown or root malformation of permanent incisors due to trauma transmitted from the primary predecessors and apical follicular cysts that prevent normal eruption. In our case reports, the impaction of central incisor was caused by an odontoma in Case 1 and we were unable to find a reason for the impaction in Case 2 and 3. Trauma can be thought as a etiological factor in Case 5. The retained primary incisor due to dense bone or fibrotic soft tissue and completed root formation are thought to be the causes of impaction of central tooth impaction in Case 4. The treatment method is considered by clinicians according to patient's medical and dental status, age, periodontal condition, hygiene, motivation, adverse habits and functional and occlusal relationships, and patient's preferences.

Keywords: impacted central teeth, complication

3. BILATERAL MANDIBULAR CORONOID PROCESSES ELONGATION AND ITS TREATMENT PROCEDURE

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Turkey

Introduction: Bilateral coronoid hyperplasia is characterized by a progressive limitation in mandibular movement, secondary to mechanical impingement of the enlongated coronoid processes on the posterior surface of the zygomas. There is usually no facial asymmetry or pain and onset occurs at puberty. Mandibular coronoid hyperplasia has been reported so far in the literature with a marked male predominance. The etiology of coronoid hyperplasia remains uncertain, with various proposed theories. An endocrine stimulus, increased temporalis activity, trauma, genetic inheritance and familial occurrence have all been suggested, none of which explains the condition. Syndromic relationship has also been described in trismus-pseudocamptodactyly and Jacob's syndromes. As it is an unusual and infrequent clinical entity, hyperplasia of the coronoid process is often overlooked or diagnosed too late.
Case report: A 27 years old, ASA I, male patient referred to our clinic from conservative treatment clinic due to his restricted mouth opening. His clinician was unable to do his fillings due to the limited mouth opening. Patient was unaware about the situation and did not have any complains including any pain or temporomandibuler disorder (TMD) symptoms. There was not any radiographic finding related to with non-reductive disc displacement on axial manyetic rezonans imaging (MRI). Bilateral coronoid hyperplasia was detected by computerized tomography and successfully treated by bilateral intraoral coronoidotomy with prolonged postoperative physiotherapy. The postoperative radiographic changes between the sectioned part of the coronoid process and the mandibular ascending ramus are described.
Conclusions: Mandibular hypomobility usually draws the clinician's attention to the temporomandibular joints and masticatory muscles. Although abnormalities of the coronoid process are considered to be less common they should not be ignored in the differential diagnosis.

Keywords: coronoid process hyperplasia, coronoid elongation, coronoidotomy

4. ORAL IDIOPATHIC LEUKOPLAKIA IN A ROMANIAN SELECTED POPULATION

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Bulgaria, Romania

Introduction: Oral leukoplakia (OL) is a white patch or plaque that cannot be rubbed off, cannot be characterized clinically or histologically as any other condition, and is not associated with any causative agent except tobacco. It is considered a premalignant lesion. **Objective:** To evaluate the clinical and pathological features of OL in a selected Romanian population.
Materials and methods: 172 charts of patients diagnosed with OL during 2000-2010 were selected. We collected data about smoking habit (quantity, duration), clinical form, location and number of lesions. 47 biopsies were undertaken-29 in smokers, 12 among non-smokers and 6 among former smokers.
Results: 133 patients were smokers, 26 nonsmokers and 13 former-smokers. In the smokers group**:** 71 were men, 62 were women while in non-smokers 17 were women and 9 men. The mean age -51.31 years in smokers was lower than in non-smokers - 61.19 years. The location of lesions**:** in smokers the most involved site was the buccal mucosa including commissures followed by the alveolar ridge, multicentric location and floor of the mouth in equal percentages. In non-smokers the most involved site was buccal mucosa followed by alveolar process and tongue. Among former-smokers the buccal mucosa, tongue and alveolar ridge were the most affected. The floor of the mouth was more interested among smokers than nonsmokers. Lingual localization was significantly higher among non-smokers than smokers ($P < 0.05$). The histopathology examination revealed**:** in smokers, carcinoma in 2.25% of cases and dysplasia in 4.51% of cases. Among non-smokers cancer was found in 15.38% of cases and dysplasia in 3.84% of cases.
Conclusions: Floor of the mouth was more interested in smokers whereas tongue among non-smokers. The multicentric location was encountered only in smokers. Buccal mucosa and alveolar ridges were almost equally affected in both groups. Dysplasia and carcinoma were more frequent among non-smokers.

Keywords: oral leukoplakia, idiopathic leukoplakia, premalignant oral lesion

5. DIFFUSE MALIGNANT B CELL LYMPHOMA DIAGNOSED BY MINOR SALIVARY GLAND BYOPSI

Alberto Benedetti, Vladimir Popovski, Aleksandar Grchev, Danica Popovich - Monevska, Antonio Kirkov, Goran Panchevski, Aleksandar Iliev, Suzana Bozovich, Hristijan Gjorgievski, Trifun Panovski
FYROM

Lymphoma of the salivary gland accounts for 5% of cases of extranodal lymphoma and historically, they comprise 1.7% to 3.1% of malignant salivary gland tumours. Most primary salivary gland lymphomas are non-Hodgkin's B marginal zone lymphomas arising on a background of sialadenitis associated with autoimmune disorders such as Sjorgen's syndrome. Primary B cell lymphoma of the minor palatinal salivary gland is uncommon.
A 55year-old woman sought medical attention for a large palatinal ulceration with central position in September 2009. The painless ulceration had gradually increased in size over a period in excess of 3 month with history of

small bleeding.The last month she felt that ulceration had extremly growth in size. Examination showed central hard palat area of ulcer cancer like with small bone destructionThe growth measured 2 x1.5cm in dimensions and was firm in consistency. It was solitary,firm mass attached to the deeper structures in palatinal bone, but painless. The overlying mucosa was with inflammation in appearance.On intraoral examination there was firm painless solitary mass nontender to palpation with ulceration in central part and not clearly demarcated from normal tissue. The tumor was subsequently excised for byopsi under general anaesthesia along with total extirpation with preservation of nearby bone structures (fig.7,8,9). One week post-operatively patient recover fully. The definitive diagnosis was made histopathologicly and microscopically with immunotyping and it was diffuse large B cell malignant lymphoma.Microscopically analysis show a heterogenic population with predominant large lymphocytes with mytosis and infiltration of tumor and destruction of minor salivary glands.Immunotyping show positive CD20,CD79a and CD57 in some cells.

Keywords: Diffuse malignant B cell lymphoma, minor salivary gland

6. ACCIDENTAL DISPLACEMENT OF TOOTH ROOTS INTO MAXILLARY SINUS CAVITY: FOUR CASE REPORTS

Alper Sindel, Cagri Bardak, Nihat Akbulut, Sebnem Kursun, Bengi Oztas
Turkey

Introduction: In the daily practice, a dental surgeon or general dentist can come across with complications during tooth extraction process. Traumatic approaches or excess applied forces or wrong manuplation of dental tools during tooth extraction in the posterior maxillary dentoalveolar region can cause root fractures and displacement of tooth pieces into the sinus cavity. We present four cases of displacement of tooth root into maxillary sinus cavity.
Case report: Displacement of roots into sinus cavity during extraction process of four different molar teeth were presented. One patient was female and three patients were male. The age range was between 43 and 59. In two cases, patients were informed about the occurence of root displacement during upper molar tooth extraction by their general clinicians and they immediately attended to oral and maxillofacial clinic of our university. In other two cases, patients with a history of tooth extraction in posterior maxillary region attented to private clinic with a chief complain of a dull facial pain and headache. Displacement of tooth roots into sinus cavity was diagnosed in radiographic evaluation by general practitioner. All of the patients were referred to faculty of dentistry of Ankara university. The treatment was surgical removal of root and closure of oroantral communication in all cases.
Conclusions: Extraction of a maxillary posterior tooth can lead to oro-maxillary sinus communication which may cause maxillary sinusitis or oro-antral fistula. The accidental displacement of a root into the maxillary sinus is a well known complication of exodontia. Oral examination and periapical radiographs are usually sufficient in diagnosing this complication.

Keywords: Maxillary sinus, Tooth root displacement

7. ACUTE MYELOBLASTIC LEUKEMIA WITH UVULA AND PALATOGLOSSAL ARCHES ADHESION

Ardita Aliko, Adem Alushi, Blerta Rumano Pjeshkazini
Albania

Introduction: Acute myeloblastic leukemia is an aggressive haematopoietic neoplasm and is the most common acute leukemia in adults. It presents primarily with peripheral blood and/or bone marrow involvement. Presentation in extramedullary sites, including the head and neck region, is not uncommon. The most frequent oral manifestations of the acute leukemias are gingival swelling, petechial hemorrhage and ecchymosis, as well as infection and ulceration, which may be caused by a variety of opportunistic microbes.
Case report: We herein report the case of a 56 year-old female patient diagnosed with acute myeloblastic leukemia who presented with unsual oral findings. On intraoral clinical examination, adhesions between the uvula and the palatoglossal arches of both sides were observed, which led to secondary respiratory and feeding difficulties. Previously, the patient had manifested generalized edema with extensive ulcers involving soft palate, uvula and palatoglossal arches, which were subsequently treated with antibiotics and antifungal drugs. The adhesions were developed during the tissues' healing process. Management of this case included supportive care, whereas surgical correction was contra-indicated, as the patient underwent multiple cycles of chemotherapy, which produced some systemic improvement, but she died as a consequence of pulmonary complications 8 months after the initial diagnosis.
Conclusions: To the best of our knowledge, this represents only the first such reported case and it shows the importance of awareness of severe consequences of oral infection in patients with hematological malignancy and the need for proper measures to improve their quality of life. Ideally, preventive measures should be applied on these patients to control oral infection, before complications develop.

Keywords: leukemia, uvula, palatoglossal arch

8. FOCAL OSSEOUS DYSPLASIA: A CASE REPORT

Aydin Ozkan, Hasan Ayberk Altug, Gurkan Rasit Bayar, Metin Sencimen, Aydin Gulses
Turkey

Introduction: Focal osseous dysplasia (FOD) is an asymptomatic benign malformation belonging to the group of fibro-osseous lesions. According to the WHO classification in 2005, four major types of benign fibro-osseous lesions have been distinguished**:** fibrous dysplasia, focal osseous dysplasia (focal cemento-osseous dysplasia), florid osseous dysplasia (including familial gigantiform cementoma) and periapical osseous dysplasia (periapical cemental dysplasia). FOD is accepted as most frequently seen fibro-osseous pathology. FOD is seen predominantly in African-American females, with a peak incidence in the fourth and fifth decades. Although the etiology and pathogenesis of FOD are unknown, it is believed that the condition originates histogenetically from periodontal ligament. It usually appears in dentate or edentulous mandibular posterior region as a fairly well defined radiolucency with a sclerotic border or a mixed radiolucent and radiopaque lesion. Further surgical intervention is not necessary, but periodic follow-up is recommended, because occasional cases were observed to progress into florid osseous dysplasia. Care must be taken to differentiate FOD from central cementifying and/or ossifying fibromas, which are true neoplasms and require surgical treatment.
Case report: In this report, we present a 46 year old female patient with the lesion diagnosed as FOD by histopathological and radiological examination on the edentulous right mandibular posterior region. Clinically, the edentulous ridge on the side of the lesion was non-expansile and was normal in appearance. In radiologic examination, a radiopaque ill-defined lesion is observed on the posterior edentulous part of the mandible. The lesion was enucleated under local anesthesia. The postoperative follow up period of six months revealed no sign of a recurrent pathology.
Conclusions: FOD may present a difficult diagnosis for dental practitioner. A detailed and careful clinical examination, together with histopathological and radiographical assessment is required.

Keywords: focal osseous dysplasia, periodontal ligament, bone disease, mandible

9. EVALUATION OF INTERCLINOID LIGAMENT OSSIFICATION USING CONE BEAM COMPUTED TOMOGRAPHY: PRELIMINARY RESULTS

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Turkey

Objective: The ossification of ligamentous structures in various part of the body may result in clinical problems. The osseous interclinoid ligament is an underestimated structure in the middle cranial fossa. Early studies on the interclinoid ligament have been conducted on either dry skull, fixed adult / fetus cadavers. The purpose of this study is to evaluate the incidence of interclinoid ligament with a surface rendering software using cone beam CT data.
Materials and methods: CBCT images (Netwom 3G, QR Verona) of 18 trigeminal neuralgia (V2 and V3) and 40 control patients retrospectively evaluated using a surface rendering program (Maxilim, Medicim). The incidence of interclinoid ligament was evaluated in trigeminal patients and control subjects.
Results: Bilaterally complete ossification of interclinoid ligament was found two subjects. There was statistically no significant between control and trigeminal neuralgia patients. Statistical analysis showed no correlation between age, side and frequency of ossification of the interclinoid ligament. ($p<0,05$).
Conclusions: The knowledge of detailed anatomy of the interclinoid ligament can increase the success of diagnostic evaluation and surgical approaches to the region.

Keywords: CBCT, interclinoid calcification

10. COMPLEX ODONTOMAS: SIX CASE REPORTS

Bengi Oztas, Cagri Bardak, Nihat Akbulut, Sebnem Kursun
Turkey

Introduction: Odontomas are the most frequently occurring odontogenic tumors, with prevalence exceeding that of all other odontogenic tumors combined. They are considered to be developmental anomalies resulting from the growth of completely differentiated odontogenic epithelial and mesenchymal cells that give rise to ameloblasts and odontoblasts. Hisatmi et al reported that odontomas may present as hamartomas rather than neoplasms, as they do not change even if left for several years with limited growth potential. Therefore odontomas are actually mixed odontogenic hamartomas. Odontomas present centrally within the jaws in one of two forms**:** compound, in which multiple small toothlike structures exist; and complex, in which irregular masses of dentin and enamel are present with no anatomic resemblance to a tooth. In this case report 6 cases of complex odontomas were presented.
Case report: Three females and three males, a total of 6 patients had complex odontomas. The age range was between 21 and 49. In all cases odontomas were impacted and asymptomatic. In two cases odontomas were in mandible and in 4 cases, they were in maxilla. In 5 cases odontomas caused tooth impaction. In one case an immature complex odontoma were presented. Treatment was extraction in four cases and routine follow up in two cases.
Conclusions: Odontomas occur most frequently in the second decade of life and have no gender predilection. Interestingly, in line with the literature our presented cases were distributed between genders evenly. However, the age range was between 21 and 49. Although each type of odontoma may occur in any location in etiher jaw. Complex odontomas tend to occur in the posterior region of the jaw and compound odontomas are more common in the anterior maxilla. Four odontomas in molar region and two odontomas in premolar region were reported. In

none of our cases, complex odontoma was observed in anterior region. Treatment of odontomas consists of either serial surveillance or surgical extraction. Surgical removal of odontomas is indicated in the absence of any contraindications. Clinical and radiographic follow-up is prudent where surgical treatment is not preferred.

Keywords: odontomas, complex odontomas

11. RETROMANDIBULAR APPROACH FOR THE RECONSTRUCTION OF LOW SUBCONDYLAR FRACTURES

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Greece

Introduction: Condylar head is a problematic area in traumatology because of difficulties in approach due to the presence of the facial nerve. Surgical approaches proposed for reduction and fixation of subcondylar fractures are**:** preauricular, postauricular, retromandibular, transoral and transparotid. We present three cases of low subcondylar fractures that reduced and fixated through a retromandibular approach.
Patients and **Materials and methods:** Two young men and a woman were admitted to our clinic with subcondylar fractures that had seriously affected dental occlusion. One of the patients had a second fracture line in the body of the mandible. None of the patients had a synchronous luxation of the fractured condyle. The patients subjected in open anatomic reduction and fixation with 2 mm titanium plates under general anesthesia and through a retromandibular incision 3 cm in length.
Results: Postoperatively, all patients were able to open their mouth more than 35 mm. No facial nerve palsy was observed. One patient (woman) presented a cutaneous salivary fistula originated from the parotid gland. The fistula was spontaneously closed after three weeks. The postoperative scar was aesthetically acceptable from all three patients.
Conclusions: Low subcondylar fractures can be safely approached via a small retromandibular incision. Injury of the parotid gland must be avoided with careful dissection and retraction of the masseter muscle.

Keywords: subcondylar fracture, traumatology, condylar head, reconstitution, retromandibular approach

12. THE RECONSTRUCTION OF THE NASAL DORSUMN

Zoran Stevanovic
Serbia

How to reconstruct the new-appeard defects of the human body is the dilemma as old as the surgery. Thanks to its anatomic characteristics and human negligence towards their own health, the area of head and neck represents an especially problematic domain.

This section presents one of the methods of reconstruction of the nasal dorsum defect, generated by the excision of the relapsed basal cell carcinoma. Patient history lists several previous surgical interventions in the same area. After the radical excision of the relapse in full thickness of the nasal structure, the first phase of the reconstruction was done by using the both sided naso-labial flaps for lining, a defect of the skin is reconstructed with the island forehead flap. In the second phase, after three weeks, the basis of the naso-labial flaps are cut, and the rest of the pedicle on the left side is covered with the skin graft. Three years after the intervention there were no signs of the relapse.
Regardless of the mutilation of the intervention on the face, the only important thing is the radicalism of the surgery because minimizing and multiple interventions leave distinctive deformities and higher risk of relapse.

Keywords: reconstruction, nasal dorsum

13. VERTICAL RIDGE AUGMENTATION USING SANDWICH OSTEOTOMY: REPORT OF TWO CASES

Erdem Kilic, Alper Alkan, Murat Ulu, Mustafa Zortuk, Hasan Onder Gumus
Turkey

Introduction: Dental implant treatment is one of the best procedure for totally or partially edentulous patients but high resorption of the mandible due to loss of teeth, trauma etc. in a vertical direction may make insertion of dental implants complicated and prosthetic rehabilitation compromised or impossible. For this purpose various treatment methods have been described like onlay bone graft, interpositional bone graft and distraction osteogenesis. All these procedures have several advantages and disadvantages. The aim of these case reports is to decribe the outcome of treatment following sandwich osteotomy in atrophic posterior and anterior mandible and placement of dental implants.
Case Reports: Two cases reported who had atrophic alveolar ridge due to trauma and loss of teeth in the posterior and anterior mandible. Before dental implant placement, we performed segmental sandwich osteotomy with interposiotonal heterologous cancellous collagenated bone block (TecnossR Sp-Block) in one patient and autologous platelet rich fibrin membranes and large particle bovine bone mineral (Bio-Oss, Geistlich, Switzerland) in the other patient, in order to repair vertical alveolar bone deficiency. After clinical and radiological evaluation, we observed that enough alveolar height had gained for successful prosthetic rehabilitation at the end of the 3 months period. We inserted 2 dental implants (4,1x10 mm) (Institut Straumann AG, Basel, Switzerland) in the mandible of one patient and 3 dental implants (3,3x12mm) (Institut Straumann AG, Basel, Switzerland) into the other patient's mandible. Resonance frequency analysis was performed immediately after placement of dental implants and at the end of the 3 months healing period to assess the osseointegration of

dental implants.
Conclusions: As a conclusion, segmental sandwich osteotomy combined with interpositional graft is recommended as an alternative treatment method for vertical bone augmentation before implant supported prosthetic rehabilitation in atrophic jaws.

Keywords: sandwich osteotomy,alveolar ridge augmentation

14. SURGICAL TREATMENT OF PARADONTOPATHY THROUGH IMPLANTING OF AN ARTIFICIAL BONE

Darko Cekov
FYROM

Purpose of the research**:** The main purpose of the research is to show how the artificial bone can help in the treatment of paradontopathy and it's application for filling inter-dental bone defects.
Used materials**:** For this purpose we use granule shaped artificial bone ISIGRAFT in 0.25 mm plastic frame, surgical stitches and tools made of sintered diamond.
Method**:** It's a surgical method which includes elevation of mucoperiostal flap.
Case report: The patient is 47 years old male with diagnosed paradontopathy. After the first scanning and analysis of the RTG reading the diagnosis indicated deep interdental bone defects. The patient was prescribed to take antibiotic and we started the treatment by applying local anaesthetic, cutting and elevation of the mucoperiostal flap. Right after we achieved more space for work, the bone defects got exposed and we started with curetting them and removing the pathologically changed tissue, the subgingival concrements and the necrotic cement. The next stage consisted of processing the bone pockets with a round tool, physyodispener and washing with physiological solution. At the beginning of the treatment the bone is ready and it needs 20 minutes for the granules to soften and to become adjustable. We start filling the bone defects with a sterile spatula by applying light pressure. Then we remove the excess bone and the mecuperiostal flap returns in the original position and slowly starts to adapt towards the teeth, then it needs to be stitched up with the other interdental seams. We make the first control after the first day, the second comes after the first week and then we remove the stitches. After a month we make another control.
Conclusions: We didn't notice any side effects of the therapy. The patient felt light pain and discomfort during the first day. After 10 days the symptoms and the pain from the paradontopahy were completely gone. We had a full recovery of the gingiva. The patient was also satisfied because now he could maintain his hygiene without the gingival bleeding.

Keyword**:** Isigraft

15. PRIMARY RECONSTRUCTION OF A MANDIBULAR SQUAMOUS CELL CARCINOMA PATIENT WITH HAIRY SKIN GRAFT: A CASE REPORT:

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Turkey

Introduction: The indication of the skin graft for oral mucosa has evolved over recent years. The ease of its harvesting, availability, and immunohistological properties, as well as its satisfactory results, has made the skin graft the current procedure of choice. Skin graft used to reconstruct defects of the head and neck region following surgery for malignant disease contain hair follicles that may result in unwanted hair growth. This can cause significant distress to the patients in a variety of ways. We present a patient with squamous cell carcinoma treated by using hairy skin graft.
Case report: A 60-year-old male patient referred to our clinic with a left posterior mandibular mucosal defect.Radiological examination was performed by use of panoramic radiography, MRI and CBCT imaging. Histopathological examination as the specimen showed SCC. Hairy skin graft from breast was used for free tissue reconstruction after segmental left mandibulectomy.
Conclusions: Suturing a graft in the oral cavity is rather cumbersome. In addition loss of an intraoral graft leads to contraction and post operative trismus. In the case, reported on here hair growth occurred due to hair follicules presented in the skin graft.That was incorrect treatment choice for SCC patient. Myofascial flap is a useful option in certain oral and maxillofacial reconstruction cases in which mucosal regeneration and/or vascularized soft tissue coverage are required. Pedicle myofascial graft should be considered in contemporary oral and maxillofacial reconstruction for the following reasons; reliable and easily handled; on the grafted myofascia in the oral cavity, the mucosa regenerates naturally with regard to suppleness and surface characteristics; vascularized myofascial coverage of tissues or materials is useful in some clinical situations.

Keywords: skin graft, squamous cell carsinoma

16. MANAGEMENT OF CLASS II MALOCCLUSION WITH ORTHODONTIC TREATMENT AND GENIOPLASTY

George Vasilakos, Ioannis Papathanasiou, Lambros Zouloumis
Greece

Introduction: Class II malocclusion is the most frequent occlusion abnormality creating esthetic discrepancies. Treatment of class II malocclusion includes orthodontic treatment, surgical treatment or combined surgical and orthodontic treatment. Treatment planning should be based on a proper diagnosis including clinical and radiological examination (cephalometric analysis) and on patients expectations, choice and age.

Four different treatment options can be used for class II malocclusion management. First of all, growth modification of the mandible with functional appliances can eliminate the dysanalogy between maxilla and mandible. Furthermore, correction of the occlusion can be made with orthodontic treatment (orthodontic comouflage). Another option can be surgical mandibular advancement combined with orthodontic treatment. Last but not least, a conservative option is combination of orthodontic camouflage and augmentation genioplasty with alloplastic material.

Materials and methods: Our purpose is to present representative cases of patients with class II malocclusion treated with orthodontic treatment to correct the occlusion and with augmentation genioplasty with the use of alloplastic material (Proplast).Also, reference is made up on indications of our methods and on other treatment modalities.

Results: After a follow-up of two years including clinical examination, all cases treated in our clinics have shown satisfactory clinical and esthetic outcomes. There was no difference in the appearance of the patients just after the treatment and two years later. The method presented according to our experience, great patient satisfaction and patients' expectations were completely fulfilled.

Conclusions: In cases of class II malocclusion, our experience has shown that combined treatment with orthodontic treatment and augmentation genioplasty can be a viable and conservative solution compared to orthognathic surgery.

Keywords: class II, combined treatment, genioplasty and orthodontic treatment

17. THE POSSIBLE REASON OF DENTAL IMPLANT FRACTURE IN MANDIBULAR MOLAR REGION: A CASE REPORT

Gülümser Colok, Nihat Akbulut, Sebnem Kursun, Alper Sindel, Cagri Bardak, Mustafa Tadidze
Turkey

Introduction: An implant-supported restoration offers a predictable treatment for tooth replacement. A single implant can serve a good long term and predictable treatment modality to replace a single molar with low complication and failure rates. The aim of this case report is to present a case with a broken neck of a single implant that was placed in posterior region of mandible using fractography principles.

Case reports: A male patient attended to oral maxillofacial department of Ankara university with a complaint of unilateral edentulous posterior mandible in 2007. He had no systemic disease and panoramic view showed enough bone dense and length in posterior mandible. So placement of 2 dental implants is indicated. Surgical operation was done under local anesthesia. Implants with a 3.3 mm diameter x 10 mm length were placed. They were rehabilitated with a porcelain bridge restoration after three months. In 2010, patient with a broken neck of his first implant in his mandibular molar region was presented. The implant fracture was evaluated by its own dental implant company. The result of this survey concluded that using implant with an external diameter of 3.3 mm in molar region was an inappropriate selection. It should be considered alternatives for placements in alveolar ridges of limited width (5 or 6 mm). For this reason solid screw implants with diameter of 3.3 mm should not be applied where indications include greater loads.

Conclusions: Dental implant failures occur for a variety of reasons and causes. One of them is the fracture of the implant especially after loading. Using implants in inappropiate locations with wrong selection of implant size, number or length lead to functional overloading of implant in prothetic stage. This may result fractures of implant or its components. Therefore a good treatment planning and appropriate case selection prevent implant fractures.

Keywords: dental implant fracture, complication

18. IMPROVING ORAL HEALTH IN PACIENT WITH NASOPHARENELA CARCINOMA BY INCREESING AMOUD OF MOUTH OPENING

Hanefi Kurt, Burim Kiseri, Kivanç Bektas, Tonguc Sulun, Gulsum Ceylan
Turkey

Nasopharyngeal carcinomas (NPC) are unique and distinct from other malignant tumors arising from head and neck mucosa in terms of histopathological spectrum, clinical characteristics and biological behavior. In most parts of the world, the age-standardized incidence rate of NPC for both genders is <1 per 100,000 person-years.

Anatomic location of the nasopharngeal tumors do not allow surgery as a treatment choice, surgical intervention is limited with biopsy. The mainstay of the therapy in NPC is radiation therapy whereas, chemotherapy in combination with radiation therapy has been found to improve survival.

The complications of NPC therapy include candidiasis; taste alterations and nutritional compromise with weight loss, and dysphagia and trismus due to muscle fibrosis, hyposalivation with demineralization and tooth damage and post-radiation osteonecrosis. Late and persistent complications decrease the patients' quality of life. Some of these, however, could be minimized by proper preradiation care, for example, dental complications. Dental root caries, xerostomia and trismus were found more often in post radiated NPC patients. Nevertheless, late complications are not carefully registered and managed. In this cast report series Nasopharyngeal carcinoma patients with trismus, who were treated in different ways in order to improve oral hygenie and increased number of caries due to hyposalivation, are going to be discussed.

OHIP scores were evaluated before and after treatment and a decrease was found in all cases,except one case, in which there was one point increase. Remaining teeth were evaluated with regard to chewing speaking and

estjetic and an increase was found in after treatment VAS scores

Keywords: Nasopharyngeal cancer, Limited mouth opening, Oral health, Physical therapy

19. EVALUATION OF EPITHELIUM-CONNECTIVE TISSUE INTERACTION IN ODONTOGENIC KERATOCYST

Emre Bariş, Ipek Isik Gonul, Tulin Oygur
Turkey

Introduction: The odontogenic keratocyst account for between about 2% and 11% of all jaw cysts and can occur at any age. Although they are benign, odontogenic keratocysts are locally very aggressive and have a tendency to recur after treatment, reported recurrence rates range from 3% to 60%. Adhesion between lesional epithelium and fibrous wall is weak and artificial de-adhesion may be observed under light microspopy. These epithelial de-adhesion was considered to be associated with high recurrence potential. The objective of this study was to analyze the lesional epithelium-basement membrane relationship in odontogenic kertocyst and also was to compare with dentigerous cyst and inflammatory odontogenic cyst.
Materials and methods: 15 fresh tissues, clinically diagnosed 5 odontojenic keratocyst, 5 dentigerous cysts and 5 inflammatory odontogenic cysts which were sent to Gazi University Faculty of Dentistry Department of Oral Pathology were evaluated by transmission electron microscope (TEM). The rest of these fresh tissues were enrolled routine tissue process and embedded in paraffin. 4-6 µm sections were obtained from the paraffin blocks and were immunohistochemically stained with laminin antibody. Brown-red coloured stromal stainings were accepted as positive under the light microscope.
Results: All cases were exhibited intact basement membrane structure. Basal cells connecting with each other and the basement membrane via desmosomes were observed under transmission electron microscope. Continuous, linear laminin positivity along the basement membrane was found in all lesions under light microscopic evaluation. Expression patterns of laminins showed no distinctive difference among these lesions.
Conclusions: These findings thought that adhesion loss in odontogenic keratocyst might be caused by structural disorganization of fibrous wall rather than lesional epithelium-basement membrane adhesion.

Keywords: keratocyst, basement membrane, electron microscopy, laminin

20. IMMUNOEXPRESSION OF TISSUE INHIBITORS OF METALLOPROTEINASES IN ODONTOGENIC LESIONS

Emre Bariş, Burcu Senguven, Ala'a Mohammed Shuibat
Turkey

Introduction: Tissue inhibitors of matrix metalloproteinases (TIMPs) are a family of inhibitors for MMPs. The major function of TIMPs is to inhibit active forms of MMPs in a 1**:** 1 stoichiometry and in a non-covalent fashion Tissue inhibitors of metalloproteinases (TIMPs) are well recognized for their inhibitory effects in cancer development and progression. The TIMPs universally inhibit angiogenesis, invasion, and metastasis, but their specific effects on cell proliferation and apoptosis are both tissue specific and context dependent.To evaluate the roles of TIMPs in tumor progression, expression of TIMP-1 and TIMP -2 were analyzed in ameloblastomas and keratocysts.
Materials and methods: 15 ameloblastomas and 15 odontojenic keratocysts chosen from the archives of Gazi University Faculty of Dentistry Department of Oral Pathology were included in this study. 4-6 µm sections were obtained from the selected paraffin blocks. These sections were immunohistochemically stained with antibodies for TIMP -1 and TIMP -2 and were evaluated under the light microscope.
Results: In most ameloblastoma cases, immunoreactivity for TIMPs was especially prominent in the stroma surrounding tumor cell islands or nests. TIMP -1 and -2 were weakly found in the cytoplasm and cell surfaces of many peripheral columnar or cuboidal tumor cells in ameloblastomas and some basal keratinocytes in odontogenic keratocyst. Expression patterns of TIMPs showed no distinctive difference between follicular and plexiform types of ameloblastomas. TIMPs reactivity was prominently found in basement membrane zones of keratocysts.
Conclusions: Expression of TIMPs was considered to be associated with interactions between epithelial cells and mesenchymal components in odontogenic tissues; these molecules might play a role in regulation of progression in ameloblastomas and keratocysts.

Keywords: ameloblastoma, keratocyst, TIMPs, immunohistochemistry

21. INFLAMMATION DUE TO FORGOTTEN AMALGAM IN AN ALVEOLAR CAVITY

Murat Inanç Cengiz, Sibel Bekta, Zonguldak Karaelmas
Turkey

Despite the numerous discussions about the toxicity of amalgam, it is still one of the most common used material for dental restoration. It is composed of a mixture of silver, mercury, zinc copper and tin. The accidental implantation of amalgam into the mucosal connective tissue usually results with amalgam tattoo. However in some instances the embedded large amalgam particles in the alveolar bone may result with foreign-body reaction. Such complications are very rarely reported.
Case Report: A 22-year-old male patient, was referred for periodontal consultation regarding for pain and swelling in his right mandibular jaw. No systemic complaints were found in his medical evaluation In his clinical examination, the patient reported the exctraction of lower first molar

tooth with a large amalgam restoration about 1 month ago. A metallic artifact about 3 mm was detected by a panoramic radiography. Sulcular incision was made on alveolar crest and full thickness flap was elevated from related area and inflammated tissue with central metallic inclusion was removed from the extraction cavity under local anesthesia. Surrounding tissue of the metallic particle was sent to the Department of Pathology. Histologic examination demonstrated a chronic inflammation and metallosis in the surrounding tissue of the metallic particle. Histamine-containing mast cells were visible in close contact to metallic accumulation as an indication for an allergic reaction of the patient against this artifact. Postoperatively, pain and swelling disappeared within 2 weeks.
Conclusion: The presented case demonstrates a forgotten amalgam artifact within the alveolar cavity may result with a seldom complication. Here this negative sample might show the importance of careful handling of amalgam.

Keywords: foreign-body reaction, chronic inflammation, amalgam

22. MANDIBULARY CORPUS FRACTURE: A CASE REPORT

Nihat Akbulut, Cagri Bardak, Sebnem Kursun, Mustafa Tadidze, Alper Sindel
Turkey

Introduction: A maxillofacial trauma or a traffic accident is the most common causes of mandibular fracture. Dealing with its treatment is not a sophisticated issue in most of the time but it requires an accurate diagnosis and treatment approach. Diagnostic errors, poor surgical technique, healing disorders or complications may lead to posttraumatic mandibular deformities.
Case report: 16-year-old male patient was referred to oral and maxillofacial surgery clinic from a state hospital with a complaint of fracture on the left side of his mandibular corpus. Clinical and radiographical examination showed a mandibular corpus fracture without displacement of fragments. A history of motor-bike accident was revealed. The patient was informed about the treatment options. We applied intermaxillary fixation (IMF) including arch-bars for the closed reduction of mandibular body fractures. The patient was followed-up about three weeks and then the IMF was removed. The mandibular fracture had healed in three weeks uneventfully.
Conclusions: Motor vehicle accidents, falls and sports are the most common causes of mandibular fractures in most countries. In our case, mandibular fracture occurred due to motor-bike accident. Many mandible fractures can be treated effectively with closed reduction techniques. According to the literature, ninety percent of patients had normal occlusion after treatment. However, all of mandible fractures require follow up. Employing wires and elastic bands to obtain IMF for the treatment of certain mandible fractures is safe, simple, effective and more economic. The patient's nutrition must be taken into consideration especially in IMF used cases. Nowadays, surgical treatment of mandibular fractures has become more popular than conservative techniques like IMF. Severe mandibular fractures may require several operations such as osteotomies and bone transplantations. Also they may need expensive implants and prosthetics rehabilitations.

Keywords: mandibulary fracture, inter maxillary fixation

23. CT IMAGING OF TRAUMATIC INTRAORBITAR AND MAXILLOFACIAL FOREIGN BODIES

Popescu Mihaela Roxana, Costin D., Dobrovat B., Nemtoi A., Oana Ladunca, Eugenia Popescu, Danisia Haba
Romania

Introduction: Evaluation of the ability of spiral and conventional computer tomography in the assessment of intraorbitar and intraocular foreign bodies.
Materials and methods: The study was conducted on 19 patients with traumatic intraorbitar and intraocular foreign bodies, aged from 15 to 52 years old, 10 men and 9 women, between september 2010 until march 2011. We used incremental CT (Somatom ARC, Siemens) and spiral CT (Philips Aura) in the axial plane, slice thickness 3mm x 1mm (n=6), slice thickness 1mm and table feed 1.5mm/s, matrix display**:** 512x512 pixel. Density measurements were made and identified the foreign bodies localization. The images obtained were interpreted using coronal and sagittal reconstructions.
Results: One case revealed an incremental CT image of a carbonite intraocular and intraorbitar foreign body. In 5 cases we found out incremental CT images of a metalic intraorbitar foreign body. In 3 cases we have spiral CT images of glass intraorbitar foreign bodies. In 2 cases we discovered the spiral CT image of a metallic penetrating intraocular foreign body. The rest of the cases shows spiral CT image of a metallic penetrating intraocular and maxillofacial foreign body.
Conclusions: Incremental and spiral CT of the orbit is a very good method for the evaluation and the management of intraocular/intraorbitar or maxillofacial foreign bodies. Spiral CT has advantages compared to incremental CT in that it allows image acquisition in only axial plane, reduces examination time and radiation exposure.

Keywords: CT, foreign body, traumatism

24. ORAL CANCER KNOWLEDGE AMONG PATIENTS REFERRED TO DENTAL SCHOOL

Rana Nalcaci, Melda Misirlioglu, Selmi Yardimci, Sedef Gencer
Turkey

Objective: The aim of this study was to assess the level of awareness and knowledge about oral cancer among patients referred to Kirikkale University Dental School.
Materials and methods: The participants of this study

were 1125 patients, who have attended the University of Kirikkale, Dental School for routine dental treatment. The study group consisted of 456 male (age range**:** 22-58, mean**:** 40.54 ± 13.43, 40.5 %) and 669 female (18-67, mean**:** 45.14±17.43, 59.5 %) patients who were recruited for the study, after taking their informed consent. The interviewer-administered questionnaire consisted of two parts. The first was used to collect information on sociodemographic variables, smoking and alcohol use, dental status and oral hygiene practices, the second part was structured with 9 item written questionnaire that focused on oral cancer risk factors, signs and symptoms and epidemiology.

Results: The level of awareness of oral cancer was 48.9 %, whereas 96.2% had heard lung cancer, 73.9% prostate cancer and 71.0% skin cancer.However, 96.1% of the participants agreed that early detection can improve the treatment outcome,only 3.5% of them had oral cancer examination. Awareness was especially poor in low socioeconomic groups. No relation was identified between sex and oral cancer risk factors or signs (P>0.5). However, the respondents 40 to 64 years of age were more likely to know one sign of oral cancer than those in the younger age group.

Conclusions: Knowledge of oral cancer and their associated risk factors was poor among this population, indicating an urgent need to implement public health education and promotion strategies.

Keywords: Awareness, oral cancer, risk factors, knowledge

25. IS IT SIALOLITHIASIS OR TOOTH? (A CASE REPORT)

Beste Inceoglu, Elif Naz Yakar, Mehmet Fatih Şentürk, Bengi Öztaş
Turkey

Introduction: Sialolithiasis is the most common cause of salivary gland obstruction. It can be complete or partial and may show recurrence. Sialolithiasis is frequently encountered in clinical practice. The mechanism for stone formation is incompletely understood. The clinical diagnosis and standard management of sialolithiasis are discussed. Its accepted treatment is to postpone silalithectomy in the acute stage, particularly in those cases in which removal of the sialolith is surgically difficult. In such cases, antibiotic medication is essential until the swelling and pain subsides and surgery becomes possible.

Case report: A 65-year-old male patient on the right corpus of mandible was reported.On radiographic examination performed by use of panoramic and occlusal radiography radiopaque lesion similar to that of a premolar tooth. Patient history revealed that a tooth was extracted from that region before 20 years ago.Patient was asymptomatic; also there was reduction in salivary flow. After extracting the lesion under local anaesthesia; macroscopic analysis was conducted so it was submandibular sialolithiasis appearance in premolar tooth.

Discussion**:** Salivary gland calculi account for the most common disease of the salivary glands. The majority of sialoliths occur in the submandibular gland or its duct and are a common cause of acute and chronic infections. Sialolithiasis are calcified masses that develop in the intra or extra glandular duct system. Because of calcification masses may appear like a tooth or any calcifying mass.Also radiographic imaging is similar to, lymphoid calcifications, dystrophic calcifications or tooth loss into mandibular zone.Careful evaluation of the clinical and radiological findings is important to diagnose.

Keywords: sialolithiasis, salivary gland, premolar

26. MASSIVE CUTANEOUS FISTULA SECONDARY TO AN ODONTOGENIC SUBMANDIBULAR ABCESS IN AN IMMUNOCOMPROMISED PATIENT: A CASE REPORT:

Bugra Senel, Gurkan R, Tamer Zerener, Aydin Gulses, Can Engin, Ozlem Ogretir, Kemal Simsek, Yavuz S. Aydintug
Turkey

Extraoral sinus tracts of dental origin often are a diagnostic challenge. A delay in correctly diagnosing these types of lesions can result in ineffective and inappropriate treatment. A 64 year-old immunocompromised female with a huge cutaneous draining tract was referred to our clinic complaining of a purulent discharge from her skin on his right submandibular area. In clinical examination and radiographic assessment, periapical lesion was noticed associated with roots of lower right first molar. According to the patient history, she had kidney transplantation 17 years ago. Following the identification of the source of infection, it was surgically and medically resolved, and skin closure was performed. Her postoperative healing period was supported with hyperbaric oxygen therapy as well. Sinus tract was successfully treated.

Keywords: cutaneous, odontogenic, sinus, immunocompromised, hyperbaric oxygen therapy

27. FLORID CEMENTO-OSSEOUS DYPLASIA: A CASE REPORT

Buket Önder, Bengi Öztaş, Emine Sebnem Kurşun, Erdal Erdem, Emre Bariş
Turkey

Introduction: The classification of cemento-osseous lesions of the jaws has been discussed by pathologists and clinicians. Currently, no universally accepted classification exist. A large group of these lesions are seperated each other by their clinical, radiographic and histologic features. FCOD is an asymptomatic bone lesions occuring in the jaw with multi quadrant involvement and the cause of FCOD is unknown. It may be detected when radiographs are taken for some other purposes. FCOD is

an asymptomatic bone lesions occuring in the jaw with multi quadrant involvement and the cause of FCOD is unknown. It may be detected when radiographs are taken for some other purposes. The classic radiographic appearance of FCOD includes diffuse, lobular, irregular shaped, mixed radiolusent/radiopaque patterns throughout the alveolar process of the maxillar and mandibular molar area. FCOD is more commonly seen in middle-aged woman and may have a genetic component. This case report clinical, histopathological and radiological features of FCOD.

Case report: A 42 year-old female patient admitted to the University of Ankara Faculty of Dentistry Department of Oral Diagnosis and Radiology for routine dental care. Panoramic radiographs coincidentally revealed a bilateral maxillary, asymptomatic, non-expansile, well-defined, round, radiopaque masses in contact with the root of the maxillary right second molar and left first molar teeth. A lobular, irregularly shaped radiopacities with clear demarcation was also present in the right mandible molar area. The teeth were vital. A diagnostic biopsy was taken. On the basis of the histologic findings, the tumor was diagnosed as FCOD. Because of the asymptmatic nature of the tumor no further treatment was advised. Routine follow-up examinations were advised to the patient for six months intervals.

Conclusions: Periapical radiographs may be insufficient to determine multifokal localization and the limits of the lesion. So panoramic radiographs should be preffered for a broader examination. FCOD is not required treatment as long as it is asymptomatic.

Keywords: FCOD, panoramic radiography, radiopaque lesion

28. COMPOUND ODONTOMAS: FOUR CASE REPORTS

Cagri Bardak, Sebnem Kursun, Nihat Akbulut, Bengi Oztas
Turkey

Introduction: Odontomas are the most common odontogenic tumor of jaws, characterized by their slow growth and non-aggressive behaviour. They constitute about 22% of all odontogenic tumors. These tumors have also been considered as tumor-like malformations or hamartomas of dental tissues or developmental anomalies rather than true odontogenic neoplasms. Odontomas are subdivided into complex or compound odontomas morphologically. Compound odontomas consist of multiple miniature or tooth-like structures involving all normal tissues, whereas complex odontomas appear as an amorphous and disorderly pattern of calcified dental tissues. In this case report, four cases of compound odontomas were presented.

Case report: Of the four compound odontomas, two were maxillary and two were mandibular odontomas. All patients were female. The age range was between 16 and 41. In all cases odontomas were impacted. Only one patient had complaints of pain. In three cases odontomas were asymptomatic. In one case odontoma was associated with an impacted tooth. In another case, it is associated with a tooth agenesis.

Conclusions: Odontomas can cause eruption failure of permanent teeth, paresthesia in the lower lip, retention of primary teeth, fistula formation, suppuration, expansion of cortical bone and displacement of teeth. Although it is a rare entity, eruption of an odontoma in the oral cavity is also reported. Pain due to secondary infection and swelling are the most common symptoms when odontomas erupt, followed by malocclusion. None of the presented cases had an erupted odontoma, only in Case 4 an odontoma caused a dull pain in anterior maxilla. The rest of them had asymptomatic odontomas. It is reported that odontomas are associated with normal teeth, missing teeth, and supernumerary teeth. In Case 1, compound odontoma was observed with a tooth agenesis. The majority of odontomas are associated with impacted teeth. In Case 4, compound odontoma caused impaction of a maxillary lateral incisor tooth. The treatment of choice is surgical removal of the lesion in all cases, followed by histopathological study to confirm the diagnosis.

Keywords: odontomas, compund odontomas

30. GIANT DENTIGEROUS CYST IN THE MAXILLARY SINUS

Can Engin Durmaz, Bugra Senel, Rahmi Evinc
Turkey

Dentigerous cysts are common developmental cysts of the jaws, most frequently associated with impacted mandibular third molar teeth. Usually they are diagnosed on routine dental radiographs and there is usually no pain or discomfort associated with the cyst unless it becomes secondarily infected. Dentigerous cyst with huge swelling of the maxilla, though not common, mostly comes to the treating surgeons in adult age.

In our presentation, it was presented a dentigerous cyst appeared as the left midfacial swelling and narrowed the left nasal cavity and expanded to the orbita. The cyst was extracted completely with a classic surgical therapy. And our patient is 23 years old.The reason for presenting the case is to emphasize that dentigerous cyst can be seen in maxiller sinus at young ages.

Keywords: Dentigerous cyst

31. PLASMABLASTIC LYMPHOMA OF THE ORAL CAVITY IN HIV POSITIVE PATIENTS

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Greece

Introduction: The plasmablastic lymphoma PBL is a non-Hodgkin lymphoma and is most commonly seen in HIV-positive male patients. It accounts for 3% of all HIV-related NHL most frequently arising in the oral cavity. Up

to 60% of cases are related to Epstem-Barr virus or HHV-8 infections. Histologically PBL is characterized of large cells with plasmablastic features positive for leukocyte common antigen CD 138, CD38. Behavior is aggressive and the treatment may consist of chemotherapy, radiotherapy or combination of both. The final course of therapy is considered on a case by case basis.
The prognosis for PBL is poor and death usually occurs 1-24 months after diagnosis. The average survival period is 6 months.
Case report: A man 50 years old, HIV positive since 1 year, presented a great ulcerated tumor in the right half side of mandibula. The biopsy of the lesion set the diagnosis of a malign neoplasm like a PBL. The CT shows an osteolysis on the left side of mandibula with cystic tumor-like lesions in the region of the tongue. The patient undergoes chemotherapy with CHOP and a remission of the lesion observed. The period of remission was short and the lesion came again one month after the 6 therapy cycles were completed. It followed radiotherapy without any significant response and was a short time response to the combination of cyclophospemide/Bortezomid. The decrease was expanded soon to the mandibula and to the right neck region.
Discussion**:** PBL is a distinct type of NHL, which frequently affects the oral tissue of HIV-positive patients and usually behaves aggressively.
Both each clinical and histopathological features are frequently ambiguous, thus rendering of an exhaustive integration of clinical, morphological, phenotypic and molecular features.
The diagnosis of such neoplasm might be more challenging in the setting of extra-oral localizations and in immunocompetent patients.

Keywords: plasmablastic lymphoma, HIV-positive patients

32. IS VIZILITEPLUS USEFUL FOR EARLY DETECTION OF ORAL PREMALIGNANCY?

Cristina Popa, Carmen Stelea, Eugenia Popescu
Romania

Introduction: Oral examination alone cannot always distinguish benign from premalignant lesions, thereby resulting in delayed patient referral and poorer prognosis. Thus, any non-invasive technology which highlights oral premalignant lesions in a specific manner will undoubtedly aid clinicians in early diagnosis and treatment. The aim of this study was to assess the real efficacy of rinsing with 1% acetic acid and observation in chemiluminescent light, combined with toluidine blue coloration using ViziLitePlus.
Materials and methods: Visualisation is the principal strategy used to assess patient's lesions at risk for malignant transformation. The clinical study was performed in Ambulatory of Oral and Maxillofacial Surgery Iasi, between 2008 - 2009, on a sample of 106 patients diagnosed with various oral mucosal diseases, with and without lesions with malignant potential.We intends to provide evidences that chemiluminescence enhances the visual characteristics of oral lesions, which we anticipated a priori may improve the visual identification of premalignant oral mucosal lesions.
Results: Chemiluminescent light detected oral lesions with soft white component (38cases), which appeared
Examination with ViziLitePlus did not change presumptive diagnosis, nor alter the biopsy site. It had only an indicative value, missing a clear distinction between keratoses lesions, inflammatory or potentially malignant degeneration. 1% acetic acid solution improved the visibility of lesions and the enhanced chemiluminescent light is absorbed by a normal tissue in a bluish tint. Lesions appeared brighter and thus can be detected those that were not visible in incandescent light. Inclusion of toluidine blue dye was another advantage, making possible the detection of malignant lesions.
Conclusions: Careful oral examination is still the most important ''tool for the detection of oral cancerous and pre-cancerous lesions. Although using an acetic acid rinse may have some benefit in making mucosal changes more visible, there appears to be no added benefit from using a chemiluminescent light rather than incandescent light for subsequent oral examination.

Keywords: oral premalignant lesions, chemiluminescent light, ViziLitePlus

33. ASSESSING ORAL-PRECANCEROUS-LESIONS KNOWLEDGE AMONG NEWLY GRADUATED DENTISTS IN ALBANIA

Dorian Kostandini, Ylli Menga, Brixhilda Neli, Rukie Ismaili, Vasil Stathi, Mario Rrapaj, Ramazan Isufi, Brunilda Gashi
Albania

Introduction: The aim of this study was to assess the knowledge for oral precancerous lesions of the graduated dental student of 2010 and dentist with less than 2 years of professional experience.
Materials and methods: The authors surveyed 100 newly graduated students of 2010 and dentist with less than 2 years of professional experience using a written questionnaire. The questionnaire included questions about oral precancerous lesions examination procedures, terminology, epidemiology, risk factors and follow up procedures.
Results: Most of the young dentists (84%) were not familiar with the terminology used for precancerous lesions and didn't know the difference between a precancerous lesion and a precancerous condition. At least 89 dentists were right about major risk factors like tobacco use and alcohol consumption. But, only 9% mention other risk factors like microorganisms HPV etc., immunosuppression conditions, UV exposure, diet etc. Only 38% were aware about the role of the general practitioner and the importance of a complete examination during routine check-up in early diagnosis.
Conclusions: Dental professionals have an important role in both, primary prevention of oral cancer by encouraging healthy lifestyles and secondary prevention by detecting oral cancer or its precursor lesions at early stages. Evidence shows that when dental students are routinely

taught certain preventive regimens in both didactic and clinical courses, they perform these procedures in clinical practice. Increasing the knowledge of graduating dental students will increase the number of practicing dentists who are trained to provide proper oral cancer examinations for their patients, and who are knowledgeable about the risk factors for oral cancer. Young dentists' in Albania need to increase their knowledge about oral pre-malign lesions, especially for prevention, early diagnosis and follow-up. Also, educators and policy-makers need to place greater emphasis on oral cancer and precancerous lesions education and training in dental schools.

Keywords: oral precancerous lesions, prevention, early detection, dentist

34. TREATMENT OF MANDIBULAR ODONTOGENIC KERATOCYSTS

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The purpose of this study was to report our experience with surgical treatment of 31 mandibular odontogenic keratocysts, with special reference to their recurrence, and to review the literature on this subject.
A retrospective analysis was conducted of all odontogenic cysts treated in the Department of Oral Surgery and Oral Medicine between 1995 and 2009. Of a total of 227 odontogenic cysts, 31 odontogenic keratocysts were histopathologically diagnosed preoperatively. They were surgically treated through an intraoral approach by resection without continuity defects. The lower border of the mandible and/or the posterior border of the ramus was left intact. In cases where teeth were in continuity with the lesion, they were extracted. In cases where cortical perforation occurred, any associated overlying mucoperiosteum was excised. All patients were reviewed annually for a follow-up period of 2 to 4 years.
All odontogenic keratocysts were found in the mandible. Of these, 23 were in the ramus and angular region (74.2%) and 8 were located in the body of the mandible. No recurrences of the operated odontogenic keratocysts were observed during the follow-up period.
Our findings indicate that removal of odontogenic keratocysts by resection without continuity defects is a satisfactory method of treatment.

Keywords: mandibular odontogenic keratocysts

35. MANAGEMENT OF PROLONGED BILATERAL TMJ DISLOCATION BY UNILATERAL INTRAORAL CONDYLECTOMY

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Turkey

Introduction: Prolonged mandibular dislocation of the temporomandibular joint usually occurs when a case of acute dislocation is left untreated or is inadequately treated. Prolonged dislocation more than 1 month is comparatively rare and often require reduction under general anesthesia. The treatment of this condition is genarally unsatisfactory, time-consuming and the most efficient method is still questionable.
Case report: A 82-year-old edentulous female presented with inability to close the mouth due to the bilateral dislocation of the mandible. 5 months previously she was hospitalised in intensive care unit due to the cerebral infarction, and it was assumed that dislocation occured during airway intervention. She had pain, swallowing disturbance, excessive salivation and indistinct speech. Clinical examination revealed downward and forward displacement of the chin. Panoramic radiograph showed anterior dislocation of both condyles in front of the articular eminences.
The patient underwent an attempt at reduction under general anesthesia. An initial attempt at manual manipulation under general anesthesia with muscle relaxants failed. Then a 1,5 cm bilateral posterior mandibular vestibular incision was made and soft tissues were elevated through the sigmoid notch. A hook was placed into the right notch intraorally and drawn in a downward and forward direction at the same time in both sides but the condylar movement for reduction was limited. Finally right condylectomy was performed intraorally then reduction of the left side with manipulation was possible. However, dislocation recurred in left side. Then we decided to keep the left condyle in glenoid fossa by maxillomandibular elastics and screws. Although this attempt was not successful, the patients' all complaints resolved. Maxillary and mandibular removable prosthesis were adjusted to the patients new jaw relationship. 1,5 months after the operation the patient could masticate and swallow and the result is satisfactory.
Conclusions: It can be concluded that unilateral intraoral condylectomy may be treatment of choice for the bilateral prolonged mandibular dislocation in elderly patients.

Keywords: TMJ, mandibular dislocation, intraoral condylectomy

36. MULTIDISCIPLINARY ASSESSMENT IN CLEFT LIP AND PALATE PATIENTS: A CASE REPORT:

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Turkey

The cleft lip and palate patient is mainly characterized by the presence of an oronasal communication, malformation or agenesis of the teeth aproxiamal to the cleft, and deficient sagittal and transverse growth of the maxilla. These patients require various treatments involving a multidisciplinary team, which may include a maxillofacial surgeon, an orthodontist, a speech therapist, a periodontologist, a general dentist, a prosthodontist, a psychologist and all those professionals who can help provide functional, aesthetic and psychological improvement. This report describes a case of prosthetic rehabilitation in a patient with cleft lip and palate and an

oronasal fistula (communication) following surgery. Different prosthetic treatments are described, with emphasis being placed on the approach chosen after to discuss the various limitations which arose.

Keywords: Cleft palate, periodontal surgery, prosthetic rehabilitation

37. CHARACTERISTICS OF ODONTOGENIC INFECTIONS IN HOSPITALIZED AND NON-HOSPITALIZED SITUATIONS

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Albania

Introduction: The first port of call for the management of severe odontogenic infections is usually the primary care practitioner. The tools available at their disposition are often active treatment, pharmaceutical therapy or referral to a specialist oral and maxillofacial surgeon. Therefore, it is important that the primary clinician be competent in diagnosing the condition, assessing its severity and establishing a plan of definitive management.
Identifying the profile of patients with and without the need for hospital care may improve a clinician's evaluation of infection severity and the need for hospital management.
Method: Clinical and sociodemographic data were collected retrospectively from patients hospital records. The two study groups consisted of hospitalized patients (HP) and non-hospitalized patients (NHP) with odontogenic infections who were treated at OMF Service, QSUT, Tirana, during the last year.
Results: No significant differences in age, gender, social status or educational background between the two groups were observed. A higher proportion of HP had trismus, floor of the mouth edema and decreased tongue mobility. The HP group also had a greater proportion of multiple-space infections than the NHP group. The most commonly involved anatomical space in the NHP group was the buccal space, while that in the HP group was the submandibular space. The submandibular, submental and submasseteric spaces were more likely to be involved in the HP group. The most common source of odontogenic infections in the HP group was the mandibular third molars and first or second molars, while that in the NHP group was the mandibular first or second molars.
Conclusions: There are important differences in the characteristics of odontogenic infections between hospitalized and non-hospitalized patients. Some of these clinical signs may assist in recognizing severe courses of odontogenic infections that may potentially require hospitalization.

Keywords: characteristics, odontogenic, infections

38. CASE REPORT: A VERRUCOUS HYPERPLASIA

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Turkey

Introduction: Oral leukoplakia occurs frequently together with other white lesions. Leukoplakia is a diagnosis by exclusion and the term should be used as a clinical diagnosis only. When a biopsy is taken, the term leukoplakia is replaced by the diagnosis obtained histologically. It is of interest that the early phase of these lesions usually exhibits an interface lymphocytic infiltrate that may mimic an oral lichenoid stomatitis such as lichen planus. A particularly aggressive form of oral leukoplakia that commences with a hyperkeratosis, spreads to become multifocal and verruciform in appearance, and later becomes malignant has been termed proliferative verrucous leukoplakia. Oral verrucous hyperplasia is a premalignant lesion. Its aggressiveness relates not only to a high recurrence rate, but more so to a very high level of and relentless progression from a localized simple keratosis to extensive oral disease and squamous carcinomas of verrucous, or conventional squamous cell type.
Case Report: A 42-year-old male patient presented with a white lesion at the ventral surface of the tongue and mouth floor, he also presented keratosis at the lower lip that he had first noticed in 2011 February. He was a smoker. An incisionel biopsy made from mouth floor. Histologically it was characterized by a verrucous epithelial hyperplasia.
Conclusions: It can be missed if a patient who presents an oral white lesion. Beacause of that the examination of the oral mucosa must be made carefully especially the ventral surface of the tongue and mouth floor. Oral verrucous hyperplasia is a premalignant lesion. A very high level of progression from a localized simple keratosis to extensive carcinomas. It is therefore important to follow-up closely any patient with oral leukoplakia.

Keywords: leukoplakia, verrucous hyperplasia, white lesion

39. DIFFUSE MALIGNANT B CELL LYMPHOMA DIAGNOSED BY MINOR SALIVARY GLAND BYOPSI

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FYROM

Lymphoma of the salivary gland accounts for 5% of cases of extranodal lymphoma and historically, they comprise 1.7% to 3.1% of malignant salivary gland tumours. Most primary salivary gland lymphomas are non-Hodgkin's B marginal zone lymphomas arising on a background of sialadenitis associated with autoimmune disorders such as Sjorgen's syndrome. Primary B cell lymphoma of the minor palatinal salivary gland is uncommon.
A 55year-old woman sought medical attention for a large palatinal ulceration with central position in September

2009. The painless ulceration had gradually increased in size over a period in excess of 3 month with history of small bleeding.The last month she felt that ulceration had extremly growth in size. Examination showed central hard palat area of ulcer cancer like with small bone destructionThe growth measured 2 x1.5cm in dimensions and was firm in consistency. It was solitary,firm mass attached to the deeper structures in palatinal bone, but painless. The overlying mucosa was with inflammation in appearance.On intraoral examination there was firm painless solitary mass nontender to palpation with ulceration in central part and not clearly demarcated from normal tissue. The tumor was subsequently excised for byopsi under general anaesthesia along with total extirpation with preservation of nearby bone structures (fig.7,8,9). One week post-operatively patient recover fully. The definitive diagnosis was made histopathologicly and microscopically with immunotyping and it was diffuse large B cell malignant lymphoma.Microscopically analysis show a heterogenic population with predominant large lymphocytes with mytosis and infiltration of tumor and destruction of minor salivary glands.Immunotyping show positive CD20, CD79a and CD57 in some cells.

Keywords: diffuse malignant B cell lymphoma, minor salivary gland

40. ACUTE MYELOBLASTIC LEUKEMIA WITH UVULA AND PALATOGLOSSAL ARCHES ADHESION

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Albania

Introduction: Acute myeloblastic leukemia is an aggressive haematopoietic neoplasm and is the most common acute leukemia in adults. It presents primarily with peripheral blood and/or bone marrow involvement. Presentation in extramedullary sites, including the head and neck region, is not uncommon. The most frequent oral manifestations of the acute leukemias are gingival swelling, petechial hemorrhage and ecchymosis, as well as infection and ulceration, which may be caused by a variety of opportunistic microbes.
Case report: We herein report the case of a 56 year-old female patient diagnosed with acute myeloblastic leukemia who presented with unsual oral findings. On intraoral clinical examination, adhesions between the uvula and the palatoglossal arches of both sides were observed, which led to secondary respiratory and feeding difficulties. Previously, the patient had manifested generalized edema with extensive ulcers involving soft palate, uvula and palatoglossal arches, which were subsequently treated with antibiotics and antifungal drugs. The adhesions were developed during the tissues' healing process. Management of this case included supportive care, whereas surgical correction was contra-indicated, as the patient underwent multiple cycles of chemotherapy, which produced some systemic improvement, but she died as a consequence of pulmonary complications 8 months after the initial diagnosis.
Conclusions: To the best of our knowledge, this represents only the first such reported case and it shows the importance of awareness of severe consequences of oral infection in patients with hematological malignancy and the need for proper measures to improve their quality of life. Ideally, preventive measures should be applied on these patients to control oral infection, before complications develop.

Keywords: leukemia, uvula, palatoglossal arch

Prosthodontics - Biomaterials

1. CELL CULTURE CHANGES IN PRESENCE ON DENTURE RESINS

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Serbia

Introduction: Poly (methyl methacrilate) (PMMA) is the most frequently used material in manufacturing denture bases, obturator and maxillofacial dentures, orthodontic devices and for their relining and reparation. Heat-cured and cold-cured acrylic resins are most commonly used in every day practice. Potentionally toxic substances from the acrylic resins are being leached from the surface layers of the denture base into the saliva, which often causes inflammatory and allergic reactions of soft tissues to which they come in contact. Pathological changes are clinically manifested as stomatitis protetica, stomatodynia and candidiasis.
The purpose of the study was to examine the effect of different concentrated acrylic extracts on the viability of HeLa cell culture, and the possibility of its recovery.
Materials and methods: Testing materials considered of four different acrylic resins. The influence of differently concentrated acrylic extracts (5%, 12,5%, 25% and 50%) on the viability of HeLa cells was examined, together with the reversibility of the changes which appeared on cells' culture. A culture that grew in an extract free medium was used as control. HeLa S3 cell line considered to be analogous to epithelial cells of oral mucosa. The estimation of HeLa cells' viability was done by the MTT test.
Results: All examined acrylic resins showed a slight to moderate cytotoxic effect. With the increment of acrylic extract' concentration cytotoxicity increased. As the concentration of examined acrylic extracts grows, the viability of HeLa cells considerably declines, and their recovery is slower. A complete recovery of the cell culture, after replacing the acrylic extracts by DMEM, hasn't been detected in any of the concentrations examined.
Conclusions: Complete recovery of HeLa cells has not occurred in any concentration of all examined.

Key words: acrylic resins, denture base, HeLa cell culture, MTT test, reversion

2. EFFECT OF DIFFERENT POLYMERIZATION MODES ON A LIGHT POLYMERIZED RESIN CEMENT TO ZIRCONIUM OXIDE CERAMIC

Adil Nalcaci, Bulent Uludag, Volkan Sahin
Turkey

Introduction: This in-vitro study evaluated the effects of light-emitting diode (LED), halogen and Plasma ARC (PAC) polymerization modes on the shear bond strength of a light polymerized resin cement to zirconium oxide ceramic.
Materials and methods: Fifty disc-shaped zirconium-oxide ceramic specimens (2x5 mm) were obtained by cutting from blocks of fully sintered material according to the manufacturer's recommendations. A single layer of Metal/Zirconia Primer was applied to ceramic surfaces and left to react for 180 seconds. Teflon mold was used to fabricate the standardized composite resin cylinders (3x6 mm). The composite resin cylinders were bonded to the ceramic surfaces with a light-polymerizing resin cement and polymerized according to one of five polymerization profiles (n =10), as follows: conventional halogen (control) group 600 mW/cm2 for 40 s; high-powered halogen group 1500 mW/cm2 for 10 s; LED group 1000 mW/cm2 for 10 s; high-powered LED group 1500 mW/cm2 for 10 s and PAC group 1370 mW/cm2 for 3 s. The shear bond strengths were determined using a universal testing machine. Bond strength (MPa) data was analyzed using 1-way analysis of variance (ANOVA) test (α=.05).
Results: There were no significant differences between the polymerization modes. The mean shear bond strength value in conventional halogen (control) group was 10.0 ± 1.5 MPa; high-powered halogen group was 11.7 ± 2.3 MPa; LED group was 11.2 ± 1.5 MPa; high-powered LED group was 12.4 ± 2.3 MPa and PAC group was 12.1 ± 2 MPa.
Conclusions: High-powered halogen, LED and PAC may be preferred due to the shorter time required for polymerization.

Keywords: polymerization, resin cement, zirconium oxide ceramic

3. FAILURE ANALYSIS OF ACRYLIC RESIN REMOVABLE DENTURES

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Turkey

Introduction: Polymethyl methacrylate is most commonly used materials in the construction of removable dentures and the fractures or the other failures in acrylic resin dentures is an unresolved problem. There are many causative factors associated with failures in acrylic dentures such as accidental dropping, poor occlusion, patient negligence during the using of the denture, poor fit, and internal defects in the base material such as voids, porosities. The aim of this study was to determine the most frequent failures in acrylic resin removable dentures of patients who attended Ataturk University, Faculty of Dentistry, Department of Prosthodontics in Turkey during 3 years.
Materials and methods: In this study, a total of 693 patients (366 males and 327 females) with damaged complete and partial acrylic resin dentures participated in the study. All the patients included in the study were using removable acrylic resin complete or partial dentures, excluding dentures with metal framework or any strengthener. Data were collected from patients with damaged dentures. The data obtained from the records was categorized with the 11 variables such as the patients' age, gender, duration of denture use, parafunctional habits, palate shape, antagonist jaw and the type of failure, separately for upper and lower complete or partial dentures. The data were analyzed using chi square test at 0.05.
Results: There was not significant difference between the genders and the number of repair, but the differences among patient age, duration of denture use, parafunctional habits, palate shape, antagonist jaw and the type of failure were statistically significant.
Conclusions: Repeated failures such as fractures of dentures can be reduced by careful attention to the design and construction of acrylic resin removable dentures particularly during the laboratory stages and using the improved high impact resins.

Keywords: Removable dentures, failure

4. EFFECT OF FLUORIDE TREATMENT ON COLOR CHANGE OF OVERGLAZED OR POLISHED LOW-FUSING PORCELAIN

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Turkey

Introduction: Porcelain surface restoration can be affected by acidulated phosphate fluoride (APF) treatment. The aim of this study was to compare colour changes of overglazed and polished APF-treated and untreated low-fusing porcelains.
Materials and methods: In total, 160 porcelain discs were prepared using Vita Omega 900 and Ceramco–Finesse. The discs were divided into two groups: control and experimental. Each group was divided into four subgroups (n = 10 each). Three polishing systems and an overglazing system were used for each subgroup. The groups were treated with 1.23% APF gel for 16 min before the samples were immersed in colouring solutions for colourimetric analysis. Colour change was analyzed by the CIE L* a* b* system on day 1 (baseline), day 15, and day 21. Representative samples were examined under a scanning electron microscope (SEM). Colour change data were analyzed with one-way analysis of variance (ANOVA) followed by a Sidak multiple comparison test (α = 0.05).

Results: There was a significant difference in colour change between the control and experimental porcelain groups (P < 0.01). In the control groups, the Ceramco–Finesse samples showed less colour change than the Vita Omega 900 samples (P < 0.01). The overglazed groups were compared with the polished groups and had the least colour change (P* < 0.01). SEM observations showed that microscopic defects were present in samples following APF treatment. However, the overglazed samples had fewer microscopic defects.
Conclusions: Application of APF gel affected the colour changes of the samples. However, overglazed porcelains were advantageous for APF treatment.

Key words**:** Low-heat porcelain; acidulated phosphate fluoride; colour changes; CIE L* a* b* system; polished

5. STUDIES OF FRACTURE TOUGHNESS FOR ACRYLIC RESINS

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Romania

Introduction: Acrylic resins, used in complete dentures' technology, are brittle materials from the fracture mechanics point of view. Following the achieving technologies of complete dentures, there often appear structural defects, which represent initiatory areas for cracks/fractures.
Objectives: The aim of this study was a comparative determination of fracture toughness for two acrylic resins.
Material and Method**:** For the experiment one used two sample types**:** CT (Compact Tension) type - W=25mm;B=12mm; a0=11mm, SENB (Single Edge Notched Beam) type - plates with dimensions of 50 x 50 x 2 mm from which were cut rectangular beams with dimensions of 4 x 2 x 25 mm (width x thickness x length). These were realized, in accordance with the manufacturer's recommendations, from light-curing acrylic resins (Eclipse Resin System, Dentsply International Inc. - DeguDent GmbH, Hanau-Germany) and heat-curing acrylic resins (Meliodent, Heraeus Kulzer, Senden, Germany). The CT samples were tested on Walter Bay Dynamic Testing Machine, while the SENB samples were tested on a static loading machine- Zwick Roell ProLine 5 kN, according to ASTM D5045 standard.
Rezultats: The values of fracture toughness by ASTM D5045 standard were**:** KC = 3.18 MPa·√m – Eclipse (SENB sample); KC = 2.97 MPa·√m – Eclipse (CT sample); KC = 2.14 MPa·√m – Meliodent (SENB sample); KC = 2.05 MPa·√m – Meliodent (CT sample). Based on the obtained results, one can notice that, Eclipse material presents a better resistance to the extension of a preexisting crack, comparatively with Meliodent.
Conclusions: Fracture toughness assessment is sensitive to the type of method, configuration, and processing procedures. Eclipse material is very brittle, despite of light-curing technology, while Meliodent has esthetic qualities and poor mechanical resistance (grant ID1878).

Keywords: fracture toughness, acrylic resins, complete dentures

6. BOND STRENGTH OF DENTURE TEETH TO HYPOALLERGENIC ACRYLIC RESIN: EFFECT OF THERMOCYCLING AND SURFACE MODIFICATIONS

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Turkey

Introduction: The most common reason for the elderly to seek dental treatment is for the replacement of missing teeth. Although the number of edentulous people has decreased, there are still many patients needing treatment that require complete dentures. Denture base materials which are indispensable part of denture fabrication have the potential to cause irritation and allergic reaction to the oral mucosa. To resolve this problem hypoallergenic denture base materials commonly used for patients with allergic reactions to polymethyl methacrylate (PMMA) denture base materials. Hypoallergenic denture base materials show no residual methyl methacrylate (MMA) or significantly lower residual MMA monomer content compared to polymethyl methacrylate-based (PMMA) heat-polymerizing acrylic resin. There is insufficient knowledge of the bond strengh properties of hypoallergenic denture base materials to acrilic resin teeth to warrant their use in place of PMMA-based acrylic resins for patients with allergic reaction to MMA.
Materials and methods: Bond strengths of acrylic resin teeth to denture base resins were evaluated before and after thermocycling. Thermocycling is an in vitro process used to simulate in vivo events and is often represented in these studies. Three denture base resin materials (Puran HC, Alldent Sinomer, QC20) and three different surface treatments (Sand blasting, Er**:** YAG laser, Sand blast + Er**:** YAG laser) were evaluated. Surface roughness were estimated using profilometer after different surface modifications. Specimens prepared according to previous studies. The specimens were adjusted and fixed for shear testing, with all tests performed on a Universal testing machine. SEM analysis were performed after fracture to determine type of adhesion failure.
Results: Results was statistically analysed.

Keywords: Acrilic Teeth, Bond Strength

7. RESTORATION OF MAXILLARY CANINE AND MOLAR WITH ZIRCONIA ALL-CERAMIC SYSTEM

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Turkey

Introduction: The Lava all-ceramic system, which is a high-strength zirconia system, and the CAD/CAM technology used in manufacturing all ceramic crowns and 3-unit fixed partial dentures (FPDs) for anterior and posterior regions meet high demands regarding esthetics and function. Although zirconium-oxide–based restorations for fixed

partial denture prostheses are available for use, clinical studies evaluating their longevity and related complications are not adequate. This clinical report demonstrates the use of the LavaTM All-Ceramic System (3M ESPE Dental Products, St. Paul, MN) with the restoration of two 3-unit FPDs.

Case report: A 51-year-old patient presented complaining about his missing maxillary right canine because during speaking saliva comes from his mouth through this space. His maxillary right first molar was also missing. After radiographic examinations it was seen that the maxillary right canine was embedded in maxilla. This embedded tooth was extracted with a surgical operation initially. 3 months after the operation, to restore the missing teeth, several options were discussed, including metal-ceramic and implant-supported restorations. However, the mesio-distal widths of the spaces of missing teeth were not enough for implant placement. In addition, the patient elected to have metal ceramic supported restorations because of his esthetic concerns. Therefore, it was decided to use all-ceramic zirconia FPDs to replace the missing teeth.

Conclusions: The LavaTM All-Ceramic system has acceptable marginal fit and excellent esthetic properties such as opalescence and translucence even after two-year follow-up. Based on the test results available in the literature, the LavaTM All-Ceramic system is indicated for crowns and 3-unit fixed partial denture restorations in the anterior and posterior areas.

Keywords: LAVA system, all-ceramic restorations, CAD/CAM

8. REPARTITION OF MICROBIAL BIOFILMS ON METALLIC STRUCTURES IN DENTAL MEDICINE

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Introduction: Microbial biofilms have constituted an extremely serious problem for dental professionals. The presence of microbial biofilms has been evidenced by electron microscopy techniques on the surface of all materials used in dentistry, but the best were found on the surface of dental alloys.

Aims. The constitution of microbial strains collection isolated from dental plaque. We studied the development of monospecific biofilms on dental alloys, in order to establish the influence of the physical and chemical structure of the alloys with the dynamics of experimental biofilms.

Materials and methods: The analysis of bacterial diversity of dental plaque samples was realised with**:** optic microscope, scanning electronic microscope, determination of bacterial loading, identification of the most important bacterial species and genus after cultivating and isolation in anaerob and aerob media and also automatic identification with VITEK systems. Were tested the patogenity and the virulent status and also the resistance of the cells with no adherence and of the cells included in artificial developed biofilms on dental alloys. Selected materials were**:** noble alloys (gold-palladium and gold-platinum alloys); seminoble alloys (silver-palladium alloys) and stainless alloys (cobalt-chromium, nikel-chromium alloys).

Results: Dental plaque has a great structural complexity (there are, in the same time**:** spiral bacterium, fungus, some gram positive morphological type). Tested strains have a high capacity of adherence on dental alloys above mentioned, even after 24 hours of incubation. The bacteria are more resistant in adhered state comparing with initial condition.

Conclusions: Repartition of the selected monospecifc microbial biofilms on dental alloys is determined by antiseptic potential of the alloys components**:** the development on stainless alloys of much more thicker biofilms than seminoble and noble alloys. Microbial biofilms appeared preferentially in surface irregularities, with on flat surfaces bacteria formed a continuous layer.

Keywords: Microbial biofilms, metallic structures, dental medicine

9. MODERN POLYMER MATERIALS IN CLINICAL PROSTHETICS

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Introduction: In the everyday dental practice and specifically in the clinical prosthetics various polymer materials are being used. The rapid development in dental materials and the wide scientific research in the sector of polymer have led to the modern complex polymer materials that have replaced the classic resins. These have wide spectrum of applications because of their exceptional mechanic, functional and aesthetic attributes.

Emphasis is given to the creation of chemical bonding of polymer materials in the metal bases where weakness of bonding exists due to the different nature and structure of these two materials. The alloys' crystalic structure and resins' non- crystalic structure has as a result in deviation of the natural, chemical and mechanic attributes of metal bases and acrylic coverings. Therefore the comparative study between the modern systems of bonding of polymer coverings in metal bases represents a useful undertaking for the particular subject.

Materials and methods: Polymer materials are useful for the manufacture of fixed temporary bridges, the creation of splint, manufacture of post-core and metallic-polymer restorations, manufacture of fillings polymer materials in restorative rehabilitation, temporary materials of removable restorations and permanent materials.

With the increasing interest for the dentistry based on the documentation, the aim of this particular presentation is to inform the public by comparing the various polymer materials.It succeeded by emphasizing their mechanic and natural attributes, their aesthetic output and their chemical constitution. Today the new materials are based on methyl methacrylates derivatives of composite resins in type Bis-Gma with reinforced the organic sublayer with

SiO2. As a result, the modern polymer coverings present better mechanic and natural attributes and also perceptibly improved aesthetic output.
Results: and **Conclusions:** In conclusion, the modern polymer materials are important tools for the clinical dentist which,without omitting their significant restrictions,provide a wide spectrum of practical applications.

Keywords: Polymer materials

10. MICROBIAL BIOFILMS DEVELOPMENT ON THE SURFACE OF BIOMATERIALS IN DENTAL MEDICINE

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Romania, FYROM

Introduction: Microbial biofims have an important role in oral pathology, in the etiology of periodontitis, but also in contamination of some materials frequently used in dentistry.
Objectives: This study aims to determine the ability of adhesion and formation of microbial biofilms on the surface of common materials in dental medicine**:** the impression materials compared to other materials of general interest in dentistry.
Materials and methods: From September 2010 to December 2010, the microbial dental plaque was taken from a number of 50 patients with conjunct ceramic dentures on nickel-chromium metal support. Materials selected for determining the ability of adhesion and formation of microbial biofilms were inert substrates, consisting of**:** impression materials (irreversible hydrocolloids, silicones, polyethers) compared with diacrylic composite resins, zinc phosphate cement and self-curing acrylic resinS. They were followed the following points**:**
- isolation and identification of microbial strains isolated from dental plaque;
- quantitative assessment of the degree of training and adherence of microbial biofilms on inert layer surface mentioned above.

Results: There was a wide variety of aerobic and anaerobic strains. It was shown that materials tested differently influence the rate of microbial adhesion and biofilm development. Thus, microbial biofilms grown on these inert substrates, gradually increase after the first 24 hours, have a maximum development at 72 hours, then followed by a sharp decline phase, without disappearing completely.
Conclusions: experiments showed that materials tested differently influence the rate of adherence and the development of microbial biofilms. The capacity of adhesion and formation of microbial biofilms proved to be a strain characteristic.

Keywords: Mcrobial biofilms, biomaterials, dental medicine

11. EFFECTS OF GOLD-PLATED ALLOY ON ROUGHNESS AND STREPTOCOCCUS MUTANS ADHESION

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Turkey

Introduction: The bacterial adhesion to fixed partial denture materials can be responsible for seconder caries, gingivitis and periodontal disease around the restoration. It is essential to reduce the bacterial adhesion to dental material for preventing these problems. One way to achieve this goal is to use of surface coating materials that are resistant to bacterial accumulation. Gold is a biocompatible and aesthetic material that has oligodynamic effect on microorganisms. Streptococcus mutans is the most cariogenic bacteria in the mouth and play as an early colonizer on formation of dental plaque. This in vitro study, nickel chromium dental alloy specimens, that commonly used in clinical dentistry as a crown and bridge material, were plated with gold and the effects on surface roughness and adhesion of Streptococcus mutans were investigated.
Materials and methods: A total of 30 disc-shaped specimens were prepared from nickel chromium alloy and metallurgically polished in order to obtain mirror finish. Specimens were ultrasonically cleaned and randomly divided into two groups (n=15). Before the application of coating process, surface roughnesses of specimens were measured by using profilometer. One of the groups served as a control and other group were plated with gold by using electro-plating system. Surface roughness measurements were repeated after gold-plating process. **Results:** of roughness were analyzed with paired t-test. Amount of Streptococcus mutans (NCTC 10449) adhesion of each group evaluated by colony-forming unit counting method. **Results:** of bacterial adhesion were analyzed with student's t test.
Results: The values of surface roughness and amount of bacterial adhesion decreased on gold-plated surfaces compared with control the group and the difference was statistically significant ($p<0.05$).
Conclusions: Gold plating on dental nickel chromium alloy can decrease surface roughness and bacterial adhesion. Therefore, gold plating process may be an alternative way for preventing dental plaque accumulation and secondary caries around nickel-chromium alloy.

Keywords: Gold Plating, S. Mutans, Dental Alloy, Roughness

12. ZIRCONIA COMPLICATIONS. A LITERATURE REVIEW

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Introduction: In the last decade, the use of all ceramic

materials for dental restorations has been increased. Metal- free restorations show favorable properties such us superior esthetics, durability and biocompatibility. A variety of different all-ceramic systems are currently available for clinical use. Regarding strength, Zirconia provides the highest data comparing to other ceramic materials. Nevertheless, several complications have been shown during the last five years, such as debonding, veneer chipping and core or connector fracture.
The aim of this study was to provide information regarding this phenomenon, the etiology and the frequency of veneer chipping and core fracture of zirconia fixed dental prostheses as well as to investigate the reasons of these failures.
Materials and methods: An electronic Medline search was performed, complemented by a manual search to identify clinical studies and systematic reviews. The following key words were used**:** zirconia, zirconia complications, longitudinal studies, fractures, porcelain chip.
Results: The electronic search provided 2346 articles and resulted in 48 abstracts for zirconia complications. Full-text analysis was performed for 30 articles, resulting in 12 studies that met the inclusion criteria. Current clinical studies revealed a chipping rate that ranged from 6% to 15% between 3 to 5 years of follow up. The overall fracture rate of the zirconia frameworks reached 2.2%. Failures are attributed to technical and biological reasons. Although after appropriate design and material selection, lifetime predictions for zirconia fixed dental prostheses are estimated to be over 20 years.
Conclusions: Zirconia can be recommended for all types of restorations, especially if highly esthetic results are requested. Nevertheless significant complications exist in the literature. Further studies should be initiated to evaluate in detail the clinical performance of zirconia restorations in posterior crowns and fixed partial dentures.

Keywords: zirconia, zirconia complications, longitudinal studies, fractures, porcelain chip

13. THE COLOR CHANGE OF FIBER POSTS DEPENDS ON REPEATED X-RAYS

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Turkey

Objectives: When teeth have been endodontically treated they quite often have little remaining coronal tissue. This is caused by a combination of previous restorative procedures, caries and the access cavity created during the root canal treatment. In these instances an intraradicular post and core is required so that a coronal restoration can be retained. Especially it is important at anterior teeth which requires more aestetichs. During the treatment procedures and controls, it is wondered that the repeated x-ray expose dose effected the structure and color of fiber posts. The aim of the this present study was to determine repeated x-rays depending on rising radiation difference on the color of fiber reinforced root canal posts.
Materials and methods: The thickness of the fiber reinforced root canal posts were fabricated 1.0 mm, 1.2mm, 1.4 mm and 1,6 mm. Four experimental groups were occured for this study and each groups were 7 specimens. And also the each group was included four subgroups. The fiber reinforced root canal posts, aluminum step wedge for (each step 1 mm) and 1 mm cross-section molar tooth were placed on occlusal film (phosfor plate) for each groups for exposing process. There were 4 groups; first group was control group, second group 0.4 sec., third group 4 sec. and fourth group 8 sec. Radiografic exposure was performed using X-ray machine except control group at 70 kVp and 8 mA. The focal spot to object of distance was 40 cm. Also the color measurement of each specimen were gauged for three difference points with a spectrophotometer. After that measurements, values obtained were saved.
Results: The results are analyzed statistically.

Keywords: fiber posts. color, x-rays

14. MODERN POSSIBILITIES OF PROSTHETIC REHABILITATION BY USING THERMOPLASTIC MATERIALS

Irina Gradinaru, Daniela Calamaz, Raluca Elena Baciu
Romania

Introduction: In the last years, the progress of dental materials and techniques used in prosthetic procedures have made possible for dentists to achieve a better esthetic and good functional results for their patients. Materials based on acrylic resins have been widely used in removable prostheses. Thermal polymerized PMMA have high porosity, high water absorption, volumetric changes and residual monomer. Due to the general increase in patients with allergic reactions, dentists are confronted with more patients with allergenic reactions to the classic PMMA. Existing acrylic materials contain many potentially toxic chemicals. Thermoplastic materials were introduced on the market as an alternative to the use of conventional acrylic resins in the construction of complete and partial removable dentures.
Materials and methods: This study included 14 partially and totally edentulous patients, aged between 45-76 years, treated by removable prostheses made of thermoplastic materials. For the complete removable dentures was used Polyan-Polyapress and for the partial removable dentures, Biodentaplast-Bredent. The technology used followed the manufacturer recommendations. For the partial removable dentures were used different elements of support and stability, according to the value and the position of the teeth, localization of the neighboring teeth, edentation's topography, type of edentations.
Results: Polyan material offers**:** no residual monomer, high precision of fit, constant suction effect, high homogeneity that reduces plaque adhesion, reduced water absorption. The Biodentaplast material has several advantages**:** is biologically well tolerated, the elements of support and stability have a good elasticity, the prostheses are lightweight, flexible and not break under

the action of masticatory forces. Both materials are supplied in cartridges, manufactured in several shades of colour that mimic the natural look.
Conclusions: Nowadays, thermoplastic materials, due to their superior properties and their precision of manufacturing in the dental lab represent a better alternative used for removable dentures, comfortable and very well accepted by patients.

Keywords: THERMOPLASTIC MATERIALS, DENTAL MEDICINE, REMOVABLE DENTURES

15. BOND STRENGTH OF THREE DIFFERENT ADHESIVES TO ENAMEL

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Turkey

The purpose of this study was to evaluate in vitro three adhesive systems**:** a total etching single-component system (Group A Optibond FL), a self-etching primer (Group B Clearfl SE Bond), and a self-etching adhesive (Group C G-Bond), through shear bond strength to enamel of human teeth. Thirty sound premolars were bisected mesiodistally and the buccal and lingual surfaces were embedded in acrylic resin, polished up to 600-grit sandpapers, and randomly assigned to three experimental groups (n = 20). Composite resin cylinders were added to the tested surfaces. The specimens were kept in distilled water (37°C/24 h), and submitted to shear testing at a crosshead speed of 0.5 mm/min. The data were submitted to Anova, Tukey and Chi-squared (5%) statistical analyses. The mean adhesive strengths were GA**:** 17.56 ± 6.27 MPa,; GB**:** 16.88 ± 5.54 MPa and GC**:** 10.08 ± 3.43 MPa. In terms of bond strength, there were no signifcant differences between GA and GB, and GC was signifcantly different from the other groups. In conclusion,the total etching and self-etching systems presented similar shear bond strength values.

Keywords: enamel bonding, bond strength, shear bond

16. EFFECT OF THE ILLUMINANTS ON THE COLOR MEASUREMENT OF AN ALL-CERAMIC

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Turkey

Introduction: Recent advances in image acquisition and data storage have resulted in the widespread use of digital cameras and ring flashes. Images produced via a digital camera are usually affected by the light source and absorption-reflection spectra of the objects. The aim of this in vitro study was to evaluate the effect of different light sources on the color measurement of a leucite-glass ceramic.
Materials and methods: 12 ceramic blocs (10 x 10 x 1 mm) were fabricated with IPS Empress Esthetic porcelain according to the manufacturer's instructions. The samples were examined at three different light sources (fluorescent lamp, daylight, ring flash) with a digital camera. In the first group, two fluorescent lamps were placed 15 cm above the ceramic samples. In the second group, the images were taken under the daylight. In the third group, digital images were obtained using a ring flash. Images were taken from the ceramic samples in an object lens distance of 10 cm in the macro mode. 10 images were taken of each sample by the same operator. Digital images were then transferred to a personal computer and color values were calculated using a software programme (Adobe Photoshop CS4). 10 measurements were made from each sample. Statistical analysis was performed using SPSS 11. The means of CIE Lab values of each group were analyzed using one-way analysis of variance (α.=0.05).
Results: The ANOVA indicated that the color of the ceramic samples was significantly affected by the light sources ($p<0.05$).
Conclusions: Light source is an effective factor when measuring the color with a digital camera.

Keywords: image analysis, color

17. AN INVESTIGATION OF PHYSICAL PROPERTIES OF ACRYLIC RESIN COPOLYMERS

Yeliz Hayran, Yasemin Keskin
Turkey

Introduction: Polymethyl methacrylate (PMMA) is widely used as denture base material in prosthetic dentistry. However, this material has some mechanical disadvantages such as low fatigue resistance, poor flexural and impact strength which can lead to premature failure. Some studies reported to the properties of PMMA have improved by chemical modification such as by the addition of rubber graft copolymer, or by reinforcement with fibers. However, a satisfactory alternative material to PMMA has not been developed yet. The aim of this study was to determine the effect of reinforcement with copolymer on the mechanical properties of conventional denture base resin.
Materials and methods: Specimens of copolymer test groups were prepared by adding volumetric percent of 10-20-30-40 of ethyl, butyl and isobutyl methacrylate monomers in conventional heat cured acrylic resin monomer. The polymer-monomer ratio was 23g/10 ml in all groups. Polymerization was carried out in accordance to manufacturer's instructions. Test specimens divided into 13 groups. For each group, 10 specimens were produced. All specimens were subjected to flexural strength testing with a universal machine. The results were assessed statistically.
Results: In this study, the datas of flexural strength and elastic modulus were analyzed by applying one-way ANOVA. The result of ANOVA indicated that there was a statistically significant difference between acrylic resins in terms of flexural strength and elastic modulus.
Conclusions: 1) There was a statistically significant difference between acrylic resins in terms of flexural strength and elastic modulus,

2) Almost in all copolymer groups, flexural strength and elastic modulus values were found to be numerically higher than the control group,
3) 40% isobutyl specimens had the highest flexural strength and elastic modulus values.

Keywords: copolymer, flexural strength, dentur base resin

18. THE EFFECT OF LABORATORY PROCEDURES AND REPEATED-GLAZING ON COLOUR CHANGES OF METAL-PORCELAIN RESTORATION

Zeynep Yesil Duymus, Hatice Ozdemir, Lutfu Ihsan Aladag
Turkey

Introduction: Metal-porcelain restoration are frequently used due to their excellent fracture resistance. Color is one of the most important determinants of the esthetic appearance of metal-porcelain restorations, which is perceived through absorption and reflection of the various wavelengths of visible light. The aim of this study was to determine the color changes of metal-ceramic restoration after routine laboratory procedures and then glazed for 1, 2 and 3 times.
Materials and methods: Fourty- five disc-shaped specimens, 10 mm diameter and 1 mm thickness were fabricated from Cr-Co metal-alloy. Bonding agent, shade A2 of first layer and second layer of opaque porcelain were applied on the metal specimens. The color of each specimen was measured with a spectrophotometer after each procedure. Three color measurements from 3 different points (9 measurements results in total) of each specimen were made. The device was calibrated with a white working standard provided by the manufacturer. Shade A2 of porcelain was applied (2mm thickness) to all specimens. The color of each specimen was measured. Glaze was applied on the porcelain for 1, 2 and 3 times and then the color measured after each procedure. Data were analyzed with one-way ANOVA and Duncan test ($p<0.05$).
Results: After the routine laboratory procedures and glazed for 1, 2 and 3 times, $\Delta E>1$ of all specimens is noticed by human eye. After the first layer of opaque porcelain, the colour changes was significant for all specimens. Compared with the first glazing procedure, the second and third glazing procedures demonstrated less effect on the color stability of metal-porcelain specimens ($p<0.05$).
Conclusions: The routine laboratory procedures and glazed for 1,2 and 3 times is effect the colour of metal-porcelain restoration. However, colour changes that occured are clinically acceptable limits.

Keywords: Laboratory procedures, Repeated-glazing, Colour changes, Metal-porcelain restoration

20. THE EFFECT OF GASTRIC JUICE ON COLOR STABILITY OF LABORATORY-PROCESSED COMPOSITES

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Turkey

Introduction: Conditions such as gastroesophageal reflux disease can cause considerable damage to restorations in the mouth. The aim of this in vitro study is to determine the effect of gastric juice on the color stability of four different types of laboratory-processed composites which have different filler contents and polymerization types.
Materials and methods: For each of the composites, ten cylindrical specimens were fabricated in shade A3 (Vita Lumin shade guide) in 15×2 mm dimensions according to the manufacturer's recommendations. The standardized surfaces were obtained with grain 1500 abrasive paper after polymerization. One of the flat surfaces of specimens were stored in dry dark environment until test procedures. The color stability test was applied to the half polished flat surface of each specimen by colorimeter before subjecting them to the simulated gastric juice for 24 hours. Color measurements were made by a colorimeter according to the CIE L*a*b* color system. Then the same test were applied on the other half of the polished flat surface of the specimens. The mean values of these measurements were considered to be CIE L1*a1*b1* before being subjected to gastric juice and the mean values were CIE L2*a2*b2* after being subjected to gastric juice. They were used to obtain the ΔE values.
Results: The results of the one-way ANOVA indicate that gastric juice effects the color change ($p<0.001$). There were significant differences between the groups in the Post Hoc Tukey test ($p<0.001$).
Conclusions: The color change might be caused by continued polymerization as well as the effect of water sorption. Various composite materials have different levels of water sorption depending on the type of monomer they are made of. Different monomers might also cause the materials to vary in color. The result of this study indicated that the gastric juice affected the color stability of laboratory-processed composites.

Keywords: gastric juice, laboratory-processed composites, color stability

21. EFFECT OF OXYGEN BARRIER ON PHYSICAL PROPERTIES OF RESIN COMPOSITES

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Turkey

Introduction: The oxygen diffusing from the atmosphere into curing resins is responsible for the inhibited surface layers commonly found on freshly polymerized resins. As the surface is exposed to the atmosphere, the surface of the resin tends to have a much lower conversion because of a continuous supply of oxygen from the air, and this results in a liquidlike, tacky, or mechanically weak formation, which is commonly called the oxygen-inhibited layer. The aim of this in vitro study was to evaluate the

effect of oxygen barrier jel (DeOx, Ultradent Inc.) on surface roughness and microhardness of different resin composites after polymerization.

Materials and methods: Six groups (n=10) of disc-shaped (8mmX2mm) specimens (N=240 samples) of a nanohybrid resin composite (Clearfil Majesty Posterior, Kuraray), resin modified glass ionomer (Dyract Extra, Dentsply), microhybrid resin composite (Tetric Ceram, Ivoclar Vivadent) and flowable resin composite (Clearfil Majesty Flow, Kuraray) were prepared. Each material's surface received the following treatment protocols. Group1**:** DeOx application (control); Group2**:** DeOx+disc finishing+polishing (DFP) (course+fine+ultrafine Sof-Lex Disc System (3M); Group3**:** DeOx+bur finishing+silicon polishing (BFSP); Group4**:** Cured against glass matrix+DFP; Group5**:** cured against glass matrix+BFSP; Group6**:** cured against glass matrix (control). The samples were kept in distilled water for 24 hours at room temperature. Surface roughness (Ra) was determined with a profilometer and Vickers microhardness was assessed with a 200 gr load. The data were analyzed statistically.

Results: All the subgroups exhibited statistically significant difference for all restorative materials. Microhardness**:** Group3 showed the best microhardness values whereas groups1&6 exhibited similar results for all the tested materials. Surface roughness**:** Groups1&6 exhibited the smoothest surfaces for all materials. The roughest surface was produced by group5 for Dyract, Tetric Ceram and Majesty flowable.

Conclusions: Oxygen barrier may be a good alternative for posterior restorations to eliminate oxygen inhibition layer like the mylar strips used in the anterior restorations.

Keywords: resin composites, oxygen barrier, microhardness, surface roughness

22. THE EFFECT OF COMPOSITE RESIN TEMPERATURE ON INTRAPULPAL TEMPERATURE RISE

Dimitrios Dionysopoulos, Eugenia Koliniotou-Koumpia, Pavlos Dionysopoulos
Greece

Introduction: The aim of this study was to evaluate in vitro the intrapulpal temperature rise of tooth when restoring with either room temperature or pre-heated composite resin.

Materials and methods: The tip of a temperature sensor was positioned on the pulpal dentinal wall of the buccal side of an extracted, human bifurcated upper premolar, which had a class V preparation on the facial surface that left 1mm remaining dentin thickness on the axial wall. Metal tubes were inserted in the palatal and buccal root of the tooth, one for water inflow and the other for water outflow to simulate physiological circulation in the pulp chamber. The cavity was restored with a single 2mm thick increment of microhybrid composite Filtek Z250 (3M ESPE) either at room temperature or pre-heated to 50 or 60oC, using standard clinical procedures while continuously monitoring intrapulpal temperature. A conventional QTH light-curing unit was used for photopolymerization of the composite for 20sec with the end tip positioned 1mm from the composite surface. Temperature rise over baseline values were recorded during the restoration process**:** composite placement, contouring and immediately after light-curing. One-way ANOVA and Tukey-Kramer post hoc test ($p<0.05$) were used for statistical analysis.

Results: Significant differences were found in intrapulpal temperature when comparing pre-heated and room temperature composite treatment with respect to baseline among the stages of the restoration process. Among composite temperatures, room temperature values were lower than those of 50 or 60oC, but the differences between temperatures were quite small (0.7 oC).

Conclusions: The results support the view that the greatest causative factor of intrapulpal temperature rise is attributed to application of the curing light unit, regardless of the composite temperature at placement.

Keywords: intrapulpal temperature rise, pre-heated composite resin, curing light unit

23. EFFECT OF TEMPERATURE ON FILM THICKNESS OF RESTORATIVE MATERIALS

Dimitrios Dionysopoulos, Eugenia Koliniotou-Koumpia, Paris Gerasimou
Greece

Introduction: The purpose of this study was to evaluate the film thickness of a variety of commercial composite resins, compomers and a giomer heated prior to light polymerization. The film thickness of these heated materials was also compared to those of flowable restorative materials at room temperature.

Materials and methods: Three conventional composite resins (Charisma, Filtek Silorane, Filtek Supreme XT), two compomers (Compoglass F, Dyract Extra), a giomer (Beautifil II) and four flowable restorative materials (Filtek Supreme Flow, Tetric Evo Flow, Wave and Compoglass Flow) were used. Specimen fabrication followed guidelines for ISO specification No 4049, 2006. Each restorative material (volume**:** 0.05mL) was pressed between two mylar-covered glass plates with a load of 15 Kg vertically to the plates for a period of 180sec. Then the materials were light cured and the thickness measured with a digital micrometer with an accuracy of 0.01mm. For specimens to be made at elevated temperature, the testing apparatus was placed into an oven, thermostatically controlled to 50oC or 60oC. Five tests were performed for each material at each of the three temperatures. Data were analyzed using one-way ANOVA and the Tukey-Kramer post hoc test ($p<0.05$).

Results: The thinnest films were formed by the group of flowable materials. Significant differences in room temperature thickness values were found among brands ($p<0.05$). All of the materials exhibited decreased film thickness at elevated temperature.

Conclusions: There were significant differences in film thickness among room temperature flowable materials, as

well as among room temperature conventional materials. There was a significant decrease in film thickness for some of the conventional materials when heated to 50oC or 60oC compared to that of room temperature values.

Keywords: film thichness, flowable materials, heated materials

24. ADHESIVE CEMENTATION PROTOCOL OF ZIRCONIA RESTORATIONS

Ana Petre, Ruxandra Sfeatcu
Romania

Introduction: Continuous evolution of dental materials used today in dentistry has determined the development of some new and modern manufacturing and cementing techniques. Due to the relatively recent entry of zirconia and alumina based ceramics in Romanian dental practice, in the dental community persist a lack of information about adhesive cementation technique or more specifically about the special preparation of zirconia and alumina surface in order to use an adhesive cementation. Our aim is to acquaint practitioners with particular structure of zirconium and microscopic behavior of three materials that have contact during the adhesive cementation**:** crown, cement composite and dental tissue.
Materials and methods: In Romanian dental laboratories are currently used some of the many available brands of zirconia such**:** Lava (3M), Ceramill (Amann Girrbach), Zenotec (Wieland), Cercon®Zirconia (Dentsply), ZirCAD (Ivoclar Vivadent) and Procera Crown Zirconia (Nobel Biocare). We have studied the indications provided by each manufacturer regarding to preparation of the zirconium surface for the adhesive cementation.
Results: The chemical component of Zirconia is almost the same regardless of the manufacturer and the lack of vitreous filling restricts any usual ceramic etching followed by silanisation. From this point of view, there have been developed two methods to improve the bonding strength of composite materials to zirconia surfaces**:** silicatization followed by silanisation or conditioning the zirconia with a 10-methacryloxydecyl dihydrogen phosphate (MDP) monomer.
Conclusions: Adhesive cements have different composition and lack of knowledge concerning the properties of these materials and their interaction with zirconia/alumina may compromise long-term outcome.

Keywords: silicatisation, silanisation, zirconia, alumina, MDP, adhesive cement

25. SEM BONDING INTERFACE BETWEEN SELF ADHERING FLOWABLE COMPOSITES AND DENTIN

Eugenia Koliniotou-Koumpia, Pantelis Kouros, Effimia Koumpia, Dimitrios Dionysopoulos
Greece

Introduction: The aim of the study was to evaluate the characteristics of the dentin-bonding interface of two self-adhering flowable composites and compare it to a self-etch adhesive system.
Materials and methods: Thirty freshly extracted human teeth were sectioned longitudinal to expose superficial dentin and dentin substrates were polished with 600 grit SiC paper. The systems tested were**:** two self-adhering flowable composite resins, Fusio Liquid Dentin (Pentron Clinical) and Vertise Flow (Kerr) and a self-etch adhesive/flowable composite resin, S3 Bond/ Clearfil Majesty Flow (Kuraray). Manufacturers' instructions for applying of materials were strictly followed. A cylindrical teflon mould (3x2mm) was placed over the bonded area and filled with each of the tested materials. Ten specimens were prepared for each material and all specimens were stored in distilled water at 370 C for 24 hours. The bonded assembly was then cut perpendicular to the bonding interface using a low-speed diamond saw to expose the bonding interface. The SEM examinations were done on the cross sectional hybridized areas by J.S.M.-840 (JEOL,Tokyo, Japan) using specimens prepared by the following procedure. The exposed interface was polished successively with 600 grid SiC paper discs, 1200 grid SiC paper discs and immersed in 6 mol/L hydrochloric acid (HCL) for 30s. This was followed by immersion in 1% sodium hypochlorite (NaOCl) for either 10 or 30 min. Specimens were then rinsed with distilled water, stored in desiccators over night to dry and then were mounted on stubs, sputter-coated with carbon and examined by one evaluator under SEM, at 19 KV.
Results: SEMs showed relatively tight interfacial adaptation of self adhering flowable composites to dentin substrates. The self-etch adhesive/flowable composite resin system provides better interaction with dentin.
Conclusions: Self-adhering flowable composites resins are failing to penetrate into dentin structures comparing to flowable composite resin and its self-etch bonding agent.

Keywords: SEM, Solvent-free, Self-etch, Adhesives, Composite resins

26. MICRO-TENSILE BOND STRENGTH OF A GLASS-IONOMER BASED ADHESIVE TO ETHANOL-SATURATED DENTIN

Muhammet Kerim Ayar, Cemal Yesilyurt, Cemile Kedici Alp
Turkey

Aim: This study determined the micro tensile bond strength (micro-TBS) of a glass-ionomer based adhesive (GIBA) to ethanol-saturated dentin.
Materials and methods: Sixteen bovine incisors were divided into four groups according to surface conditioning methods and dentin bonding techniques (n=4). Group I**:** 37% phosphoric acid (PA) + Conventional wet bonding + Vitrabond, Group II**:** 37% PA Ethanol wet bonding + Vitrabond, Group III**:** polyacrilic acid conditioner + (PAA)Conventional wet bonding + Vitrabond and Group IV**:** +PAA + Ethanol wet bonding + Vitrabond. The GIBA was applied to the treated dentine surfaces followed by a

composite inserted in increments and light cured. After 24h waited in water at 37°C, the bonded teeth were perpendicularly cut with a low-speed diamond saw to obtain sticks (1 mm2 cross-sectional dimensions) for micro-TBS testing. The results were analyzed by ANOVA followed by Tukey HSD test ($p<0.05$).
Results: The mean micro-TBS were Group I**:** 14,3±3,8, Group II**:** 11,1± 3,3, Group III**:** 15,2± 6,1, Group IV**:** 10,1± 5,3. Group IV showed different bond strengths significantly lower than those of all other groups.
Conclusions: The application of GIBA to ethanol-saturated dentin may results with decreasing of adhesive-dentin bond strength.

Keywords: TBS, glass ionomer, ethanol-wet bonding, adhesion, resin

27. IN VITRO INVESTIGATION OF CALCIUM IONS PERMEABILITY THROUGH DENTIN SECTIONS

Violeta Dogandzhiyska, Slavcho Dimitrov, Vasil Kalchinov, Tzvetelina Guergieva
Bulgaria

Introduction: Preserving the dental pulp or part of it in a healthy state is the main purpose by direct and indirect pulp capping, particularly by teeth with incomplete root formation. The objectives of the treatment are to seal the pulp against bacterial penetration, to encourage the pulp to wall off the exposure site by initiating a dentine bridge and to maintain healthy pulp tissue. A wide range of materials have been suggested for pulp dressing. Calcium-content materials are indicate as one of the best materials of choice by direct and indirect pulp capping methods, because they presents biocompatibility, antibacterial activity and are able to induce mineralized barrier formation.
Materials and methods: The aim of this study was to investigate quantify of calcium ions passed by diffusion or iontophoresis through dentin sections with equal thickness and diameter. 40 intact, extracted human teeth were used. 40 dentin sections with thickness 1 mm were prepared. There were randomly divided into 4 groups/ n= 10 each/. All sections were treated as follows**:**
Group 1- 8.94 mg/ml Calcium gluconici, iontophoresis, 10 min
Group 2- 8.94 mg/ml Calcium gluconici, diffusion, 10 min
Group 3- Calcium hydrocxide/ Dycal, Ivory/, diffusion, 10 min
Group 4- MTA/ Angelus/, diffusion, 10 min
After that samples were submit to atomic absorption spectrometry to determine the contents of Ca- ions in solutions.
Results: In present study we determined highest quantify of Ca-ions passed trough dentin sections in group 1. Lower was the quantity in group 2 and group 3. In group 4 were fixed lowest values of passed Ca-ions.
Discussion**:** It can be concluded that permeability of calcium ions through dentin is dependent on material properties, **Introduction:** manner and dentin idiosyncrasy. All of investigated materials can be used successfully by pulp capping as source of calcium ions.

Keywords: Calcium ions, pulp capping, iontophoresis

29. AN INVESTIGATION OF PHYSICAL PROPERTIES OF ACRYLIC RESIN COPOLYMERS

Yeliz Hayran, Yasemin Keskin
Turkey

Introduction: Poly (methyl methacrylate) (PMMA) is widely used as denture base material in prosthetic dentistry. However, this material has some mechanical disadvantages such as low fatigue resistance, poor flexural and impact strength which can lead to premature failure. Some studies reported to the properties of PMMA have improved by chemical modification such as by the addition of rubber graft copolymer, or by reinforcement with fibers. However, a satisfactory alternative material to PMMA has not been developed yet. The aim of this study was to determine the effect of reinforcement with copolymer on the mechanical properties of conventional denture base resin.
Materials and methods: Specimens of copolymer test groups were prepared by adding volumetric percent of 10-20-30-40 of ethyl, butyl and isobutyl methacrylate monomers in conventional heat cured acrylic resin monomer. The polymer-monomer ratio was 23g/10 ml in all groups. Polymerization was carried out in accordance to manufacturer's instructions. Test specimens divided into 13 groups. For each group, 10 specimens were produced. All specimens were subjected to flexural strength testing with a universal machine. The results were assessed statistically.
Results: In this study, the datas of flexural strength and elastic modulus were analyzed by applying one-way ANOVA. The result of ANOVA indicated that there was a statistically significant difference between acrylic resins in terms of flexural strength and elastic modulus.
Conclusions: 1) There was a statistically significant difference between acrylic resins in terms of flexural strength and elastic modulus,
2) Almost in all copolymer groups, flexural strength and elastic modulus values were found to be numerically higher than the control group,
3) 40% isobutyl specimens had the highest flexural strength and elastic modulus values.

Keywords: copolymer, flexural strength, dentur base resin

30. THE EFFECT OF LABORATORY PROCEDURES AND REPEATED-GLAZING ON COLOUR CHANGES OF METAL-PORCELAIN RESTORATION

Zeynep Yesil Duymus, Hatice Ozdemir, Lutfu Ihsan Aladag
Turkey

Introduction: Metal-porcelain restoration are frequently

used due to their excellent fracture resistance. Color is one of the most important determinants of the esthetic appearance of metal-porcelain restorations, which is perceived through absorption and reflection of the various wavelengths of visible light. The aim of this study was to determine the color changes of metal-ceramic restoration after routine laboratory procedures and then glazed for 1, 2 and 3 times.

Materials and methods: Fourty- five disc-shaped specimens, 10 mm diameter and 1 mm thickness were fabricated from Cr-Co metal-alloy. Bonding agent, shade A2 of first layer and second layer of opaque porcelain were applied on the metal specimens. The color of each specimen was measured with a spectrophotometer after each procedure. Three color measurements from 3 different points (9 measurements results in total) of each specimen were made. The device was calibrated with a white working standard provided by the manufacturer. Shade A2 of porcelain was applied (2mm thickness) to all specimens. The color of each specimen was measured. Glaze was applied on the porcelain for 1, 2 and 3 times and then the color measured after each procedure. Data were analyzed with one-way ANOVA and Duncan test ($p<0.05$).

Results: After the routine laboratory procedures and glazed for 1, 2 and 3 times, $\Delta E>1$ of all specimens is noticed by human eye. After the first layer of opaque porcelain, the colour changes was significant for all specimens. Compared with the first glazing procedure, the second and third glazing procedures demonstrated less effect on the color stability of metal-porcelain specimens ($p<0.05$).

Conclusions: The routine laboratory procedures and glazed for 1,2 and 3 times is effect the colour of metal-porcelain restoration. However, colour changes that occured are clinically acceptable limits.

Keywords: Laboratory procedures, Repeated-glazing, Colour changes, Metal-porcelain restoration

Implantology

1. IMPORTANCE OF INITIAL STABILITY IN IMMEDIATE LOADING

Bitsis Ioannis, Lolis Christos
Greece

Introduction: In the last three decades, implant dentistry has emerged as a fully accepted discipline in dentistry. Delayed loading of immediately placed implants is a very well established technique that has a high success rate. In post-Branemark era, immediate loading of implants placed in healed sites is also well established and depends on absence of micromovement (primary stability) during the healing phase. Immediate placement and immediate loading is also possible when it does not, in itself, interfere with the process of osseointegration. Researchers realized that excessive micromovement at the bone-implant interface was responsible for failures of osseointegration. In addition they discovered that a threshold for micromovement could be established. If micromovement could be kept below this limit, immediate loading would have no damaging effects.

Materials and **Materials and methods:** Contemporary literature review in the scientific data bases.

Results: To be suitable for immediate loading, implants have to achieve satisfactory initial stability, which is the key to the prognosis for implant integration. For an immediately loaded implant, it is especially crucial to limit micromovement within the tolerant threshold. The primary stability of the implant at placement will depend on several factors such as the quality and quantity of bone present and the design of the implant, as well as on the development of specific operative and prosthetic protocols.

Conclusions: The concept of replacing a tooth that is failing with an implant which is brought into function immediately carries a great attraction. Although it is challenging, under curtain circumstances, the functional and aesthetic result is very good and can be recommended. The most obvious benefits of this technique to the patient are the reduction in treatment time and considerable convenience in comparison to conventional implant treatment.

Keywords: implant initial stability, immediate loading

2. IMPORTANCE OF NUMBER OF IMPLANTS AND THEIR POSITIONS IN COMPLETE DENTURE'S RETENTION

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Serbia

Introduction: Complete dentures on implants are widely used in modern dental clinical practice.

The aim of this study is to assess what number and which distribution of location of implants could be favorable in complete denture's retention

Materials and methods: 7 edentulous patients having different location of implants in edentulous jaws were analyzed. The needed number of implants that has to be positioned in the jaw has been analyzed. The analysis assumed analysis of panoramic radiographs of the jaws, as well as clinical assessment of condition-form and shape and consistency of edentulous ridge in the mouth.

Results: It was established that the minimum of implants that has been positioned in the edentulous jaw, was 2. In the clinical conditions, the retention of a denture should have been provided using 4 implants. The best effect of retention is provided by 4 implants positioned in the anterior segments of edentulous jaws, and 2 implants positioned laterally in a region of chewing center to the left and to the right side.

Conclusions: The arrangement of 6 implants-4 implants positioned anteriorly, and 2 implants to the lateral side in transcanine region provided favorable retention and stabilization, but arrangement of implants of that kind is

hard to obtain in edentulous jaw, particularly for elderly and old patients. Completely satisfactory results would be provided with positioning of 2 implants in anterior region, which should significantly contribute to the stability of complete denture.

Keywords: implant, edentulous, denture

3. SINGLE-TOOTH IMPLANT WITH ZIRCONIA ABUTMENT AND ALL CERAMIC CROWN

Burcu Batak, Funda Akaltan
Turkey

Introduction: Implant therapy especially in the anterior maxillary region has been developed in gingival esthetics with the past decade.When choosing an abutment for an anterior single-unit case several factors such as biotype of the gingiva, colour of the neighbouring teeth and esthetic expectations should be considered. The underlying titanium abutment can reduce the porcelain translucency and cause dark coloured prosthesis. The use of zirconia in daily practice can prevent this problem and also zirconia with its appropriate strength and corrosion resistance improves biologic and esthetics aspects.
Case report: A 65- year- old woman with loss of right lateral incisor tooth, referred for treatment at Ankara University, Faculty of Dentistry. Following clinical and radiographic examinations a Maryland bridge was constructed as temporary restoration and a titanium dental implant (Astra Tech, Osseospeed TX) 3.5 mm in diameter and 11 mm in length was inserted with papillae conservative flap elevation. Maryland bridge was adjusted after soft tissue healing was completed. After 4 months healing cap was placed over the osseointegrated implant. Then an impression was taken and zirconia abutment was reprepared on the model, it was torqued in place and an acrylic temporary crown was made with overcontoured in the marginal site to recontour papillae and soft tissues. Incremental acrylic material was added to optimize papillae formation. Finally, a conventional impression was made to prepare an all-ceramic zirconia crown over the zirconia abutment.
Conclusions: In this case using an acrylic temporary crown over zirconia abutment showed how papillae formation can be optimized before full ceramic crown restoration. Also the patient was satisfied about esthetics because of zirconia abutment and all ceramic crown. Clinical and radiographical controls were made and no complication was observed.

Keywords: all-ceramics, zirconia ceramics, zirconia abutment

4. CLINICAL APPLICATION OF SURGICAL GUIDE FOR IMPLANT PLACEMENT: A CASE REPORT

Ceren Su Akgün, Sadullah Üçtali, Murat Akkaya
Turkey

Introduction: The placement of dental implants requires precise planning that considers the vital anatomic structures and restorative goals. Diagnosis and planning using tomography scanning can be performed but transferring the exact plan to the surgical field may not be possible without using surgical guide.
The aim of the present study was to plan the positions and axes of implants using a surgical guide.
Case report: A 38 year old female patient visited Ankara University Faculty of Dentistry Department of Periodontoloji for treatment at tooth loss in her mandibula. We decided to place implants to the edentolous area. At the planning phase, intraoral examination showed an anatomic variation at the operation site. Detailed examination on CT images revealed a C shape crest. To eliminate the risk of demaging to vital structures and bone exposure, a surgical guide was prepared by CT-based software program. The implants were placed using this guide with flapless technique. The drilling procedurs were performed using appropriate drills for each corresponding implant (according to the manufacturer's guidelines). Post-operative complication didn't occur.
Conclusions: Computer-assisted implant plannig on 3D models allows the optimal assessment and investigation for implant placement which is often difficult to predict prior to the initiation of care. The use of surgical guides for placement of dental implants provides greater control and eliminate the risks that are involved in standart implant surgery. Also, CT-derived surgical guides allow clinically significant improvements in occuracy, time efficiency and reduction in surgical error, benefiting the patient, surgeon and restorative dentist.

Keywords: dental implants, computerize tomography, surgical guide

5. BALL ATTACHMENT SCREW FRACTURE DUE TO AN INACCURATE TREATMENT PLANNING

Cihan Sadi Ugurel, Arda Ozdiler, Omer Kutay
Turkey

Introduction: Screw fracture is one of the mechanical complications that occur in implant restorations. This is a situation that generally arises after screw loosening depending on metal fatigue. There are plenty of factors that lead to screw loosening. As for this case, a series of complications that occur due to a faulty implant placed in the opposing jaw causes screw fracture of a ball attachment on the mandible.
Case report: In this case one of the problems that were seen on patient's maxilla was the insufficient number of implants. As we know for a removable implant prosthesis on the maxilla the minimum number of implants is four. For this case there were two implants on the upper jaw. Also the implant that's been opposing the fractured ball attachment was placed high above the edentulous ridge. Finally, the stresses that were aroused because of this inaccurate treatment planning resulted with a ball attachment screw fracture. After the fractured screw specimen was located, it was extracted using endodontic

files, an ultrasonic cavitron and a probe for common examination without detriment to the screw hole, a new ball attachment was applied to the implant. Because of financial insufficiencies and an ongoing cervical discal hernia treatment patient didn't want any additional implants and new prostheses. To sum up existed prostheses was made available for adequate intraoral function then delivered to the patient for short-term use.
Conclusions: Screw loosening is a more recognized complication then screw fracture. A loose screw that is not retightened would be fractured. Patients should be made aware for such complications and regular controls should be carried out for preventing these undesirable situations. Proper treatment planning, well arranged occlusal contacts and screw tightening with correct torque value will minimize the incidence of abutment screw loosening and fracture.

Keywords: Dental Implants, Implant Supported Dental Prosthesis, Screw Fracture\

6. RESTORATION OF A SEGMENTAL MANDIBULAR DEFECT WITH AN IMPLANT-SUPPORTED HYBRID PROSTHESIS: A CASE REPORT:

Cumhur Sipahi, Yavuz Aydintug
Turkey

Congenital, developmental or acquired factors are the main ethiologies of maxillofacial defects. These defects are prosthetically restored after being subjected to surgical reconstruction. Conventional methods used for the retention of maxillofacial prostheses are far from providing efficient and satisfactory retention. In the last decades, the high success rates obtained with implant supported intraoral prostheses led to the use of osseointegrated implants to overcome the retention problems of maxillofacial prostheses. However, implant supported hybrid prostheses are the most accurate treatment alternatives in the restoration of edentulous crests with extensive soft tissue and bone loss.
The present case report describes the restoration of a segmental mandibular defect occured after the resection of an ameloblastic tumoral lesion with an implant supported hybrid prosthesis after being subjected to surgical reconstruction.

Keywords: implant, hybrid prosthesis, resection

7. A RADIOLOGIC STUDY OF MORPHOLOGIC CHANGES OF THE INCISIVE CANAL

Dan Sălăvăstru, Victor Nimigean, Vanda Roxana Nimigean
Romania

Introduction: The frontal area of the maxillary represents a key area from both esthetic and functional points of view, being referred to by many as the esthetic area. In relation to oral implants the area requires a careful quantitative and qualitative evaluation of the available bone structure. When bone loss occurs, the alveolar crest may approach anatomic structures.Under these conditions, the nasopalatine nerve and vessels may ultimately emerge from the ridge crest.
Materials and methods: The study was performed radiological on 100 subjects who had maxillary computed tomography scans before dental implantation as well as through measurements performed on 50 skulls having edentulous spaces in the frontal maxillae.
Results: The canal diameter was wider along the degree of ridge resorption in all dimensions, mainly in the palatal opening, middle area, and nasal area. The anterior palatine canal, which passes along the midline and exits on the lingual aspect at the base of the ridge sets the middle border of the alveolar crest. There is significant variation in canal width and volume of available bone in the frontal area. The average width between the bucal part of the bone and the anterior palatine canal is 7mm
Conclusions: Canal diameter enlargement was greater anteriorly to the ridge and posteriorly to the palatal bone, mainly because of tooth extraction. The atrophy of disuse may influence surrounding structures, similar to the maxillary sinus tendency to expand into surrounding bone mainly after tooth loss.To avoid the anterior palatine canal it is better to avoid the midline during implant insertion

Keywords: incisive canal, dental implant, available bone

8. IMPLANT SUPPORTED PROSTHETIC ALTERNATIVES FOR IMPROVING QUALITY OF LIFE IN ELDERLY

Ilgi Baran
Turkey

Objective: In general population, the use of dental implants has become a management strategy for replacing missing teeth. As part of the treatment plan for the aging population, general dentists should consider this treatment modality in their practices. Older people often desire to replace missing teeth, but they have complex medical, social, economic and resource issues that must be accounted for in their prosthetic treatment alternatives.
Case Reports: According to the single tooth deficiency, free-ending cases, total edentulouism implant treatment become the new treatment option for patient's fuctional and esthetic expectation.The most important feature of these cases; when conventional prosthetic treatment compared with implants treatment,it was found that implant treatmant is more successful rehabilitation and it must be the first chose for edentulusim if there is any contrendication. This study reviews specific issues concerning the aging population and alternative prosthetic treatment. This case report was intended to present the rehabilitation of 3 total edentulous arch cases with implant supported fixed prosthesis and removable prosthesis following clinical and radiological evaluations.
Conclusions: Especially in older people when planning

prosthetic treatment, patients should be considered the wishes and experiences of the past. Some patients may be persistent for a fixed prosthesis that can replace the functions the others just simply to meet the expectations of removable prosthesis.Implant-supported fixed prosthesis applications, there are also some disadvantages and difficulties. At the end of 1 year clinical follow-ups; functions, phonations and esthetics were highly satisfied. Successful results could be obtained with appropriate diagnosis and treatment planning in the rehabilitation of completely edentulous arch cases with implant supported fixed and/or removable prosthesis.

Keywords: Geriatric dentistry, dental prosthesis, dental implantation

9. CONSIDERATIONS ON THE EFFECTS OF TWO IMPLANT MANDIBULAR OVERDENTURE ON THE OPPOSITE MAXILLARY COMPLETE DENTURE

Marin Mihaela, Preoteasa Elena, Melescanu Imre Marina, Petrescu Vlad
Romania

Objective: The purpose of this study was to evaluate the clinical consequences of using two implants for mandibular denture retention, on occlusion and opposite maxillary complete denture, as well as on oral structures in the morpho-functional aspect.
Materials and methods: The study group (n = 28) consisted of complete edentulous patients treated with mandibular two implant overdenture and complete conventional maxillary denture, with an age between 52-83 years, 20 women and 8 men followed for a period of 6 month. The assessment was made subjectively using questionnaires, and also objective by clinical examination of occlusal relationships and denture retention and stability. Subjectively, it was assessed the patients perception on masticatory function, comfort with maxillary denture and their opinion on the upper denture adaptation. Objective, clinical check-ups were conducted regularly, on the denture balance and occlusal relationships. Also, all the complications regarded the maxillary denture was recorded. **Results:** Subjectively, after a period of 6 month, most patients perceived a decrease of maxillary denture stability. Clinical observations suggests that the combination of the two types of prosthesis can lead, in some conditions, to an impaired maxillary denture balance, with anterior displacement of the masticatory field, resulting in increased load on the anterior maxillary ridge, affecting the relationship between the prosthesis and the support structures.
Conclusions: With regard to the possible occlusal changes and their implications in maxillary denture balance, to diminish any traumatic effects on the maxillary ridge, the treatment planning should consider periodically control sessions consisting in occlusion rehabilitation interventions for preventing concentration of the masticatory pressure in the anterior maxillary ridge.

Keywords: complete edentulism, implant overdenture, maxillary complete denture outcome

10. A 7 YEAR-LONG PROSPECTIVE ANALYSIS OF DENTAL IMPLANT SUPPORTED PROSTHETIC THERAPY IN TERMS OF SUCCESS AND FAILURE

Ilgi Baran, Fethi Atil, Hakan H. Tuz, Umut Tekin, Ali Can Bulut
Turkey

Introduction: The long term predictability of dental implants has resulted in the widespread use of this therapy method, which was initially designed to solve total edentulism. On account of their successful results, implants have also been used for partially edentulous patients. The objective of this prospective study is to evaluate a group of 587 dental implants in terms of success according to sex, age and dental condition of the patients that they were implanted.
Materials and methods: The study included a total number of 186 patients that were treated in a sequential manner, whereas the group of patients consisted of 80 mandibulary, 67 maxillary and 56 maxillomandibulary implant patients. The survey group was comprised of patients, who consulted to Kirikkale University School of Dentistry for dental implant therapy from years 2004 to 2010. No exclusion criteria applied.
The term of implantation was examined within the context of several variables, such as the type of prosthodontic rehabilitations needed, graft material necessity and applications, phases in relation to success and failure rates. Evaluation of success and failure was based on the criteria of soft tissue health, surgical or protetical system diversities implant immobility, periimplantitis and patients responses on satisfaction questionnaires. Analysis conducted included frequency, cross tabulations, calculation of means, Spearman's Rho and Chi-square test. Significance was set at 5% level.
Results: There were 104 male and 99 female patients between 22 to 78 years of age (mean age 52.47±7.36 years). 114 implant supported bridge, 18 implant supported overdenture and 71 implant supported single crown applications have been made. All implants were immobile, and each had a mean vertical bone reduction of less than 0.2 mm by the time they were examined. No variations between implant systems were observed in the meaning of success. Throughout 7 years of inspection on these implant rehabilitations, there have been only 9 dental implant losses during preprotetic treatment, which were later reevaluated and then reimplanted.

Keywords: prospective analysis, dental, implant edentulism, overdenture

11. SELF REPORTED PROBLEMS BEFORE AND AFTER CONVENTIONAL COMPLETE DENTURE AND IMPLANT RETAINED OVERDENTURE ACCORDING TO ORAL HEALTH IMPACT

PROFILE

Ilgi Baran, Fethi Atil
Turkey

Introduction: The adversity of rehabilitation for totally or partially edentulous patients deem it necessary to devise therapeutic strategies. It is impossible to capture the full impact of treatment on health status with only traditional measures of health status. Also, health related quality of life is becoming increasingly recognized as an important outcome of health care. The aim of this study was to compare the satisfaction and the quality of life in an elderly population using either mandibular conventional dentures or implant-retained overdentures.
Materials and methods: A total of 81 patients were divided into two groups**:** group I – conventional complete dentures users; group II – users of upper complete dentures opposed by implant-retained overdentures. The subjects were subjected to a questionnaire based on Oral Health Impact Profile and oral health related quality of life in order to evaluate their satisfaction levels and quality of life with their prostheses. Data were evaluated using a non-parametric statistical analysis (Fischer test) with significant difference set as a = 0.05.
Results: There were no significant differences between the groups in relation to comfort, aesthetics, chewing ability, overall satisfaction, pain, functional, phonetic, social, and psychological limitations ($p > 0.05$). Comparing the stability of mandibular dentures, group II presented the better results ($p < 0.05$).
Conclusions: Although the stability of the mandibular implant-retained overdenture was found to be enhanced compared to a conventional denture, the quality of life and satisfaction levels were similar for both groups.

Keywords: Oral Health Impact profile, edentulous, implant-retained overdenture

12. FEA OF STRESS DISTRIBUTION IN MANDIBLES WITH VARIOUS ANATOMICAL FORMS

Ates Gokcen, Erkesen Can, Ates Muzaffer
Turkey

Introduction: The implant-supported overdenture restoration has become one of the most effective prosthodontic modalities in complete and partially edentulous patients. This type of overdenture improves the bite force compared with that of conventional complete dentures, which means that the load on the mandibular bone is increased after this treatment. Nowadays, a small number of implant supported overdentures are mostly applied treatment because of the both the economic and high patient satisfaction point of view in edentulous lower jaws. As quoted in many articles, use of ball attachments on two implants is the primary method in interforaminal region. However, there are few studies about investigating the effects of the placement of the implants on stress distribution. The purpose of this study is to determine appropriate placement for implants on three different types of mandibles and three different localizations.
Materials and methods: Finite element method is used in this study as a method of analysis. Mandible is modeled until to the retromolar regions as a whole. Values of resulting from the forces acting in the vertical direction on computer generated models were compared with each other. Forty-five analysis were made on nine different models with five different loading. Von Mises, tensile, compressive stress and strain values were computed in analysis. The results obtained were compared between each other and with previous studies. The critical regions can be identified with the results.
Result**:** The highest bone tension due to vertical forces have ocured in cortical bone around neck of implant in all of the models except square 4 model.
Conclusions: In our study with the analysis on 3rd model in other words on square model when implants placed on 1st premolar regions demonstrated that the results of over the values recognized in the literature. Obtained results are expected to guidance to the success of clinicalapplications.

Keywords: Finite element analysis, implant overdentures, ball attachments, morphology of dental arch.

13. COST-ANALYSIS OF MANDIBULER IMPLANT RETAINED OVERDENTURES OPPOSED TO COMPLETE DENTURES

Bedriye Gizem Celebioglu, Secil Nigar Karadeniz, Sadullah Uctasli, Kivanc Turkoglu
Turkey

Introduction: The success of implant-retained mandibular overdentures in terms of stability, function, speech and patient satisfaction is evident. However, comparing traditional complete dentures with implant-retained overdentures, cost of latter one is so high. Cost of implant-retained overdentures may also depend on the used of implant systems and type of attachments used in overdentures. Direct and indirect cost are related with fabrication of dentures and maintenance of dentures respectively and is affected total cost. The aim of this study was to compare the cost of mandibuler retained overdentures either ball or locator attachments with conventional complete dentures in a three different treatment places such as dental faculty, dental hospital and private practice in Turkey.
Materials and methods: Patients with atrophic mandibles and persistent problems with their conventional complete dentures were treated with three different prosthetic modality. These were conventional complete denture, implant retained overdenture with ball attachment and implant retained overdenture with locator attachment. Treatment costs of different dentures were calculated as direct costs from dental faculty, dental hospital and private practice. Additionally, costs of periodical visits upto 5-year was determined as an indirect cost.
Results: Comparing conventional complete dentures with

implant retained overdentures, there was significant differences between both direct and indirect costs. were observed for direct cost of aftercare. Direct costs of dentures constituted 80% of the total costs and were significantly higher in the group with a locater attachments on 2 implants compared with the group with ball attachments on 2 implants.
Conclusions: Considering treatment costs of different dentures, complete dentures and implant retained overdentures have the lowest and the highest costs in every treatment places. Moreover, private practice costs higher than either dental faculty or dental hospital. Although fabrication of conventional complete dentures have economical advantages, thinking of patient satisfaction, implant retained overdentures has several benefits.

Keywords: Cost-analysis, mandibular overdentures, locater attachment, ball attachment, implant

14. SELECTION OF ATTACHMENT TYPE FOR IMPLANT SUPPORTED MANDIBULAR OVERDENTURES

Sadullah Uctasli, Bedriye Gizem Celebioglu, Kivanc Turkoglu, Secil Nigar
Turkey

Introduction: The selection of an attachment system is mainly related to the personel choice of practitioner and/or laboratory responsible, based on experience and training. Anchorage devices used for overdentures as unsplinted or splinted type. Unsplinted (Single elements) type in itself divided into three. Single retentive anchors (stress breaking mechanism), single magnet anchors (stress breaking mechanism) and individually cast telescopic copings (rigid mechanism). Splinted type also divided into three subgrups. U-shaped bar (rigid), round clip bar (stress breaking mechanism) and egg-shaped Dolder bar (stress breaking mechanism). Ball attachments or locator attachments are belonging to the single retentive anchors group. The aim of this study was to compare ball and locator attachments within implant supported mandibular overdentures opposed to complete dentures using patient centred outcome measures.
Materials and methods: 10 maxillary and mandibular edentuluous patients were treated first with conventional complete dentures and after 3 months dentures usage, patient satisfaction was measured utilisng Visual Analogue Scale (VAS). Then same patient group was undergone two interforaminal implant treatment. Implant systems were enable to apply both ball and locator attachments. First 3 months ball attachments and second 3 months locator attachments were fitted and patient satisfaction from different attachment systems were obtained after 3 and 6 months usage utilising VAS. Statsitical analysis was performed using three way ANOVA ($p<0.05$).
Results: Using VAS, patient satisfaction was related with the type of denture design. The lowest patient satisfaction was obtained from conventional complete denture design ($p<0.05$). Although there was not statistically significant differences between attachment types, using locator attachments gave higher VAS value.
Conclusions: Patient satisfaction improved significantly using implant supports. Both attachment types provide significantly greater satisfaction than conventional complete dentures.

Keywords: locator attachment, mandibular overdenture, implant

15. THE EVALUATION OF AVAILABLE BONE HEIGHT IN POSTERIOR EDENTULOUS MAXILLARY REGIONS USING CBCT

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Turkey

Introduction: Available bone in posterior maxillary region is very important for implant planning and placement. The purpose of this study was to determine variations in the vertical height measurements of the edentulous posterior maxilla, to assess position of the maxillary sinus floor with the use of cone beam computerized tomography (CBCT) in a group of Turkish subpopulation in Cyprus.
Materials and methods: The study included 70 edentulous posterior maxillary regions of 33 male and 37 female patients, between the ages of 32 and 76 via CBCT images. Maxillary sinus floor was divided in to three sections (anterior, median and posterior) on sagittal plane. Perpendicular lines were drawn on the cross-sectional images between the deepest point of the maxillary sinus floor and alveolar crest of the maxillary posterior edentulous site. The distances were measured with a built-in measurement tool three times repeatedly for each site by one prosthodontist, one periodontologist and one maxillofacial radiologist and mean values were recorded. Student's t test was used to compare measurements between age and gender. Means, standard deviations and minimum and maximum values were calculated for all posterior regions.
Results: Gender and age groups did not effect the bone height statistically ($p>0.05$). The mean distance values between the sinus floor and the alveolar crest in anterior, median and posterior regions were 9.05 mm, 5.64 mm and 7.73 mm, respectively.
Conclusions: The mean distance values between sinus floor and alveolar crest were longest for the anterior site and shortest for the median site at all groups. It can be concluded that the anterior part is the ideal region for implant placement. The results of the study may help clinicians to make initial decision for planning of the implant fixture for implant supported prosthesis in posterior maxilla for in a group of Turkish subpopulation in Cyprus.

Keywords: implant, CBCT, maxillary sinus, posterior maxilla, vertical height.

16. EMERGENCY DENTAL OPERATIONS AND

DENTAL IMPLANTS

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Greece

Introduction: Emergency dental operations are considered all the not planned dental treatments. For example, a patient falls, loses his front teeth and come to the dental clinic after one hour to receive emergency treatment. The emergency situations are complicated on their handling especially when there are plenty of treatment options which influence the treatment approach and methodology, not only of the extraction but also of the placement of the temporary restorations. Crown and root fractures are ideal clinical incidences for immediate implant placement because of the absence of infection and periapical lesions, normally seen on endodontiacally treated teeth. Not taking advantage of the uninfected extracted root socket by immediately placing a dental implant, can sometimes lead to more than expected bone resorption that can jeopardize the success of the dental implant treatment.
Materials and methods: Two 30 years old patients received emergency treatment, including atraummatic extraction of the teeth and immediate placement of a dental implant and of a temporary restoration.
Results: The placement of a dental implant right after an emergency extraction is a beneficial treatment option at the dental clinic. The ability to offer to an emergency patient a short and successful treatment increases the patient's satisfaction, facilitates dental implant placement & treatment, and indicates high level dental services. However, problems must be explained to the patient, options should be discussed and an agreed plan must be prepared.
Conclusions: Emergency extraction and immediate dental implant placement is considered a good solution and usually a predicted treatment option for cases the loss of tooth is not avoidable, like root fractures.

Keywords: dental implant, extraction, immediate placement

17. FULL MOUTH FIXED REHABILITATION IN THE CLASS III MALOCCLUSION WITH DENTAL IMPLANTS

Mustafa Zortuk, Erdem Kilic, Pinar Yildiz, Rana Kuzu
Turkey

Introduction: Full mouth rehabilitation for a patient with skeletal class III malocclusion is complex and often requires a comprehensive multidisciplinary approach.
Case report: A healthy 43-year-old male presenting with edentulous maxilla, partial edentulous prognathic mandibula referred to Erciyes University Faculty of Dentistry, prosthodontics clinic for fixed prosthetic restoration. Patients malposed and periodontally compromised mandibular incisor teeth extracted remaining number 33, 43, 44 teeth had endodontic treatment and prepared to minimize negative overjet. 8 cylindrical implants was placed to the maxilla and 4 cylindrical implants was placed to mandibulary molar region.The implants were loaded twelve weeks after placement. His functional occlusion and esthetic appearance were restored with maxillary porcelain-fused-to-metal crowns and mandibular implant and tooth-supported porcelain-fused-to-metal restorations.
Conclusions: Treatments for full mouth rehabilitation of a severe skeletal class III malocclusion is presented along with treatment sequence and management of complications.

Keywords: class III malocclusion, dental implants

18. ZIRCONIUM BAR WITH GALVANOFORMED RIDER. MODERN CONNECTING SYSTEM FOR OVERDENTURES

Naiche Diana, Baldea Bogdan, Bratu Emanuel, Nagy Katalin
Romania

Introduction: Implant retained mandibular overdentures represent a reliable and simple solution to denture retention and stability problems. The retention and stability characteristics are provided primarily by implants through attachments. A passive fit is critical for clinical success, particularly for implant-supported dentures. The best way to achieve passive fit is using galvanoforming technology when an implant-supported overdenture is planned. Also, splinting of the implants improves the primary stability, which has been described to be very important for early loading protocol.
Case report: This paper work is presenting a case report of mandibular telescopic overdenture retained by a continuous gold galvanoformed rider over a CAD-CAM zirconia milled bar supported by four interforaminal implants that were early loaded. The technique describes the fabrication of a telescopic, metal-acrylic resin implant supported overdenture. Passive fit is achieved by intraoral luting of the bar over prefabricated implant abutments and of the telescopic galvanoformed rider to the framework.
Conclusions: At one-year recall, the periimplant bone loss was minimal on panoramic x-ray and no signs of periimplantitis were recorded. Also, no loss of retention was notice during this period of time. The retrievability of the overdenture proved to be a major advantage on oral hygiene. Patient felt comfortable and was satisfied with this type of prosthetic restoration.

Keywords: galvanoformed rider, zirconium milled bar, passive fit

19. FINITE ELEMENT ANALYSIS OF MANDIBULAR IMPLANT BAR ATTACHMENT OVERDENTURES

Kemal Cogalan, Mutahhar Ulusoy, Unsun Cetin

Turkey

Introduction: Satisfaction of edentulous patients with complete denture is not always possible. As a result of tooth lost with aging, in older patients ridge resorption, decreasing in chewing efficiency, changing of muscle balance, losing vertical height, esthetic and fonetic inadequacy is observed. Because of these reasons while maintaining retention and stability of new dentures, some problems will be occured. To overcome of these problems of edentulous patients, it has been very popular to use implant supported removable dentures. Implant therapy is widely used for the treatment of fully edentulous mouths. Placing implants to the interforaminal region of a mandibula and constructing overdenture prosthesses is a good alternative. But still there is no consensus on the number of the implants in mandibular implant overdentures.
Materials and methods: In our study we prepared 2, three dimentional finite element models representing bar retained overdenture prosthesses built over 2 and 4 implants. Three-dimentional finite element models were created including implants and a bar framework placed in the anterior part of jaw. 100 N vertical were aplied on the first mandibular teeth each model. Data were qualitatively evaluated using Von Mises stress given by the software.
Results: The results of our study shows us that the maximum stress formation were seen on the cortical bone.The maximum stress results at the spongios bone were very low and mostly seen in the apex of the implants.
Conclusions: In our study, we tried to find out the effect of number of implants. The number of the implants had no significant differences with 2 and 4 implants but 2 implant model a little higher higher stress values than 4 implant model.

Keywords: finite element, bar, overdenture, implant

20. AN ALTERNATIVE TREATMENT DESIGN FOR IMPLANT PROSTHETICS: A CASE REPORT

Mutahhar M. Ulusoy, Kemal Cogalan
Turkey

Introduction: Implant prosthesis improve the quality of life of edentulous patients. Implant treatment protocols for fully edentulous patients include implant-supported fixed restorations with a minimum of six implants or overdentures on two to four implants. However, implant placement in the posterior areas is sometimes not permitted by anatomic and/or financial restraints, or unwillingness of patients to have extensive surgical procedures. An anterior fixed- splinted implant supported restoration with a precision partial denture posteriorly, using an extracoronal universal ball attachment is an alternative restoration to the removable implant-supported bar or ball retained overdenture.
Case report: A 53 year-old mandibular total edentulous male sought treatment at the Prosthodontic Department of the Faculty of Dentistry of Ankara University (Ankara, Turkey). The patient complained about the poor retention of his existing denture. The radiographic examination showed excessive bone resorption at posterior mandibula. Four implants (MIS dental implants, Israel) were placed into the interforaminal area of the mandibula. After 3 months an anterior fixed ceramometal cement-retained bridge was applied. The partial denture built over 4 implants was supported with a precision attachment (Bredent Vario-Stud-Snap SG, Germany). The patient remained satisfied with the prosthesis in the follow-up examinations for 5 years and is satisfied with both esthetics and function.
Conclusions: A satisfying restoration can be achieved with fewer implants when there are anatomic and/or financial restraints, or unwillingness of the patients who do not want to undergo extensive surgical procedures. In this case a removable partial denture combined with a fixed partial denture supported by four implants in the anterior segment offered an attractive treatment option for an edentulous patient. The patient's benefits were increased comfort, good esthetics in the anterior area, improved phonetics, and especially improved masticatory function. More extended controlled clinical studies are needed to establish the long-term success of this type of treatment option.

Keywords: implant supported removable prosthesis

21. THE IMPLANT-SUPPORTED SINGLE TOOTH RESTORATION SOLUTIONS IN PATIENTS WITH HYPODONTIA: CASE REPORT

Vesna Medic, Vladan Blagojevic, Srdjan Postic, Emilija Lapcevic
Serbia

Patients affected with partial anodontia, the congenital absence of one or more teeth, are significant treatment challenge for the restorative dentist. Depending on the severity of condition, various prosthodontic treatments are available to improve appearance, mastication and speech. These options are a tooth resin bonded fixed partial denture, a cantilevered fixed partial denture, a full-coverage fixed partial denture or a implant supported single tooth restoration. Selecting the appropriate treatment option depends on the malocclusion, anterior relationship, specific space requirements and condition of adjacent teeth. The ideal treatment is the most conservative option that satisfies individual esthetic and functional requirements. Today, the implant-supported single tooth has become one of the most common treatment alternatives for the replacement of missing teeth. This clinical report describes placement of implant-supported single tooth restoration in patients with congenitally missing teeth, emphasizing the importance of interdisciplinary treatment planning. Orthodontic treatment was necessary to create the space for implant placement. Choosing appropriate treatment, techniques, and materials will result in long-term clinical function, stability and esthetic success.

Keywords: hypodontia, implant

22. RESORBED EDENTULOUS MANDIBLE AND IMPLANT

Zuhal Öncül, Ayse Mese
Turkey

The prosthetic treatment applied to many of old patients is the total prosthesis in the most of the times but also fixed prosthesis, removable partial dentures, overlay prosthesis and oral implants are frequently applied today by the dentists. But total prosthesis have some problems. These problems are a challenge for the prosthodontist and surgeon.For this mandibular implants have been widely used to stabilize the dentures, consequently improving masticatory performance and may offer the best functional result.. The decision depends on multiple variables such as oral hygiene, anatomic factors, biomechanical criteria, the expectations of the patient, as well as economic situation of the patient. In this case we used one of the possible attachment systems for overdentures are balls.The aim of this case is to review resorbed edentulous mandible and dental implant treatment.

Keywords: ball attacment, implant,total

23. 7 YEAR-LONG PROSPECTIVE ANALYSIS OF DENTAL IMPLANT SUPPORTED PROSTHETIC THERAPY IN TERMS OF SUCCESS AND FAILURE

Ilgi Baran, Fethi Atil, Hakan H. Tuz, Umut Tekin, Ali Can Bulut
Turkey

Introduction: The long term predictability of dental implants has resulted in the widespread use of this therapy method, which was initially designed to solve total edentulism. On account of their successful results, implants have also been used for partially edentulous patients. The objective of this prospective study is to evaluate a group of 587 dental implants in terms of success according to sex, age and dental condition of the patients that they were implanted.
Materials and methods: The study included a total number of 186 patients that were treated in a sequential manner, whereas the group of patients consisted of 80 mandibulary, 67 maxillary and 56 maxillomandibulary implant patients. The survey group was comprised of patients, who consulted to Kirikkale University School of Dentistry for dental implant therapy from years 2004 to 2010. No exclusion criteria applied. The term of implantation was examined within the context of several variables, such as the type of prosthodontic rehabilitations needed, graft material necessity and applications, phases in relation to success and failure rates. Evaluation of success and failure was based on the criteria of soft tissue health, surgical or protetical system diversities implant immobility, periimplantitis and patients responses on satisfaction questionnaires. Analysis conducted included frequency, cross tabulations, calculation of means, Spearman's Rho and Chi-square test. Significance was set at 5% level.
Results: There were 104 male and 99 female patients between 22 to 78 years of age (mean age 52.47±7.36 years). 114 implant supported bridge, 18 implant supported overdenture and 71 implant supported single crown applications have been made. All implants were immobile, and each had a mean vertical bone reduction of less than 0.2 mm by the time they were examined. No variations between implant systems were observed in the meaning of success. Throughout 7 years of inspection on these implant rehabilitations, there have been only 9 dental implant losses during preprotetic treatment, which were later reevaluated and then reimplanted.

Keywords: prospective analysis, dental, implant edentulism, overdenture

24. SELF REPORTED PROBLEMS BEFORE AND AFTER CONVENTIONAL COMPLETE DENTURE AND IMPLANT RETAINED OVERDENTURE ACCORDING TO ORAL HEALTH IMPACT PROFILE

Ilgi Baran, Fethi Atil
Turkey

Introduction: The adversity of rehabilitation for totally or partially edentulous patients deem it necessary to devise therapeutic strategies. It is impossible to capture the full impact of treatment on health status with only traditional measures of health status. Also, health related quality of life is becoming increasingly recognized as an important outcome of health care. The aim of this study was to compare the satisfaction and the quality of life in an elderly population using either mandibular conventional dentures or implant-retained overdentures.
Materials and methods: A total of 81 patients were divided into two groups**:** group I – conventional complete dentures users; group II – users of upper complete dentures opposed by implant-retained overdentures. The subjects were subjected to a questionnaire based on Oral Health Impact Profile and oral health related quality of life in order to evaluate their satisfaction levels and quality of life with their prostheses. Data were evaluated using a non-parametric statistical analysis (Fischer test) with significant difference set as a = 0.05.
Results: There were no significant differences between the groups in relation to comfort, aesthetics, chewing ability, overall satisfaction, pain, functional, phonetic, social, and psychological limitations ($p > 0.05$). Comparing the stability of mandibular dentures, group II presented the better results ($p < 0.05$).
Conclusions: Although the stability of the mandibular implant-retained overdenture was found to be enhanced compared to a conventional denture, the quality of life and satisfaction levels were similar for both groups.

Keywords: Oral Health Impact Profile, edentulous,

implant-retained overdenture

25. COST-ANALYSIS OF MANDIBULER IMPLANT RETAINED OVERDENTURES OPPOSED TO COMPLETE DENTURES

Bedriye Gizem Celebioglu, Secil Nigar Karadeniz, Sadullah Uctasli, Kivanc Turkoglu
Turkey

Introduction: The success of implant-retained mandibular overdentures in terms of stability, function, speech and patient satisfaction is evident. However, comparing traditional complete dentures with implant-retained overdentures, cost of latter one is so high. Cost of implant-retained overdentures may also depend on the used of implant systems and type of attachments used in overdentures. Direct and indirect cost are related with fabrication of dentures and maintenance of dentures respectively and is affected total cost. The aim of this study was to compare the cost of mandibuler retained overdentures either ball or locator attachments with conventional complete dentures in a three different treatment places such as dental faculty, dental hospital and private practice in Turkey.
Materials and methods: Patients with atrophic mandibles and persistent problems with their conventional complete dentures were treated with three different prosthetic modality. These were conventional complete denture, implant retained overdenture with ball attachment and implant retained overdenture with locator attachment. Treatment costs of different dentures were calculated as direct costs from dental faculty, dental hospital and private practice. Additionally, costs of periodical visits upto 5-year was determined as an indirect cost.
Results: Comparing conventional complete dentures with implant retained overdentures, there was significant differences between both direct and indirect costs. were observed for direct cost of aftercare. Direct costs of dentures constituted 80% of the total costs and were significantly higher in the group with a locater attachments on 2 implants compared with the group with ball attachments on 2 implants.
Conclusions: Considering treatment costs of different dentures, complete dentures and implant retained overdentures have the lowest and the highest costs in every treatment places. Moreover, private practice costs higher than either dental faculty or dental hospital. Although fabrication of conventional complete dentures have economical advantages, thinking of patient satisfaction, implant retained overdentures has several benefits.

Keywords: cost-analysis, mandibular overdentures, locater attachment, ball attachment, implant

26. IMPORTANCE OF INITIAL STABILITY IN IMMEDIATE LOADING

Bitsis Ioannis, Lolis Christos
Greece

Introduction: In the last three decades, implant dentistry has emerged as a fully accepted discipline in dentistry. Delayed loading of immediately placed implants is a very well established technique that has a high success rate. In post-Branemark era, immediate loading of implants placed in healed sites is also well established and depends on absence of micromovement (primary stability) during the healing phase. Immediate placement and immediate loading is also possible when it does not, in itself, interfere with the process of osseointegration. Researchers realized that excessive micromovement at the bone-implant interface was responsible for failures of osseointegration. In addition they discovered that a threshold for micromovement could be established. If micromovement could be kept below this limit, immediate loading would have no damaging effects.
Materials and **Materials and methods:** Contemporary literature review in the scientific data bases.
Results: To be suitable for immediate loading, implants have to achieve satisfactory initial stability, which is the key to the prognosis for implant integration. For an immediately loaded implant, it is especially crucial to limit micromovement within the tolerant threshold. The primary stability of the implant at placement will depend on several factors such as the quality and quantity of bone present and the design of the implant, as well as on the development of specific operative and prosthetic protocols.
Conclusions: The concept of replacing a tooth that is failing with an implant which is brought into function immediately carries a great attraction. Although it is challenging, under curtain circumstances, the functional and aesthetic result is very good and can be recommended. The most obvious benefits of this technique to the patient are the reduction in treatment time and considerable convenience in comparison to conventional implant treatment.

Keywords: implant initial stability, immediate loading

27. SINGLE-TOOTH IMPLANT WITH ZIRCONIA ABUTMENT AND ALL CERAMIC CROWN

Burcu Batak, Funda Akaltan
Turkey

Introduction: Implant therapy especially in the anterior maxillary region has been developed in gingival esthetics with the past decade.When choosing an abutment for an anterior single-unit case several factors such as biotype of the gingiva, colour of the neighbouring teeth and esthetic expectations should be considered. The underlying titanium abutment can reduce the porcelain translucency and cause dark coloured prosthesis. The use of zirconia in daily practice can prevent this problem and also zirconia with its appropriate strength and corrosion resistance improves biologic and esthetics aspects.
Case report:
A 65- year- old woman with loss of right lateral incisor

tooth, referred for treatment at Ankara University, Faculty of Dentistry. Following clinical and radiographic examinations a Maryland bridge was constructed as temporary restoration and a titanium dental implant (Astra Tech, Osseospeed TX) 3.5 mm in diameter and 11 mm in length was inserted with papillae conservative flap elevation. Maryland bridge was adjusted after soft tissue healing was completed. After 4 months healing cap was placed over the osseointegrated implant. Then an impression was taken and zirconia abutment was reprepared on the model, it was torqued in place and an acrylic temporary crown was made with overcontoured in the marginal site to recontour papillae and soft tissues. Incremental acrylic material was added to optimize papillae formation. Finally, a conventional impression was made to prepare an all-ceramic zirconia crown over the zirconia abutment.

Conclusions: In this case using an acrylic temporary crown over zirconia abutment showed how papillae formation can be optimized before full ceramic crown restoration. Also the patient was satisfied about esthetics because of zirconia abutment and all ceramic crown. Clinical and radiographical controls were made and no complication was observed.

Keywords: All-ceramics, Zirconia ceramics, Zirconia abutment

28. CORRELATION BETWEEN RESIDUAL RIDGE HEIGHT AND SINUS MEMBRANE PERFORATION

Cagri Ozcelebi, Hasan Guney Yilmaz, Ilkim Karadag, Turkey

Introduction: The sinus-lift procedure is generally considered to be safe with a low prevalence of complications. The most common intra-operative complication in sinus elevation surgery is perforation of the Schneiderian membrane. Membrane perforations are strongly associated with the appearance of postoperative complications. Anatomic factors (septa, membrane thickness, narrow sinus) have been implicated in membrane perforation. Therefore the aim of the retrospective study was determine the correlation between residual ridge height (RH) and sinus membrane perforation (MP).

Materials and methods: 56 patients (82 sinus-lift procedures) were included the study. Preoperative computed tomography (CT) scanning was performed for radiographically evaluate to RH. The highest RH was recorded for each patient. The classifications for RH; RH<5 mm or RH>5 mm. Sinus augmentation procedures were performed with a lateral approach technique. Sinus perforations were detected in 14 sinus sites. Perforations repaired with collagen membranes. The space underneath the elevated door and the Schneiderian membrane or the collagen membrane was filled with graft material 194 implants were placed simultaneously. A chi-square test was used to determine the relationship between the groups. Values of $p < 0.05$ were accepted as statistically significant. The strength of the correlation was determined by the r value**:** mild correlation, $r < 0.40$; moderate correlation, $r = 0.40$ to 0.70; and strong correlation $r > 0.70$.

Results: All perforations smaller than 5 mm. Mild correlation was found between RH and MP. Nine of 194 implants were failed. No significance was found between implant lost and MP.

Conclusions: In conclusion, within the limits of this study, it could be suggest that RH < 5 mm is an important factor for sinus membrane perforation.

Keywords: Sinus membrane perforation; residual ridge height; sinus lift surgery

29. BALL ATTACHMENT SCREW FRACTURE DUE TO AN INACCURATE TREATMENT PLANNING

Cihan Sadi Ugurel, Arda Ozdiler, Omer Kutay Turkey

Introduction: Screw fracture is one of the mechanical complications that occur in implant restorations. This is a situation that generally arises after screw loosening depending on metal fatigue. There are plenty of factors that lead to screw loosening. As for this case, a series of complications that occur due to a faulty implant placed in the opposing jaw causes screw fracture of a ball attachment on the mandible.

Case report:

In this case one of the problems that were seen on patient's maxilla was the insufficient number of implants. As we know for a removable implant prosthesis on the maxilla the minimum number of implants is four. For this case there were two implants on the upper jaw. Also the implant that's been opposing the fractured ball attachment was placed high above the edentulous ridge. Finally, the stresses that were aroused because of this inaccurate treatment planning resulted with a ball attachment screw fracture.

After the fractured screw specimen was located, it was extracted using endodontic files, an ultrasonic cavitron and a probe for common examination without detriment to the screw hole, a new ball attachment was applied to the implant. Because of financial insufficiencies and an ongoing cervical discal hernia treatment patient didn't want any additional implants and new prostheses. To sum up existed prostheses was made available for adequate intraoral function then delivered to the patient for short-term use.

Conclusions: Screw loosening is a more recognized complication then screw fracture. A loose screw that is not retightened would be fractured. Patients should be made aware for such complications and regular controls should be carried out for preventing these undesirable situations. Proper treatment planning, well arranged occlusal contacts and screw tightening with correct torque value will minimize the incidence of abutment screw loosening and fracture.

Keywords: Dental Implants, Implant Supported Dental Prosthesis, Screw Fracture

30. A RADIOLOGIC STUDY OF MORPHOLOGIC CHANGES OF THE INCISIVE CANAL

Dan Sălăvăstru, Victor Nimigean, Vanda Roxana Nimigean
Romania

Introduction: The frontal area of the maxillary represents a key area from both esthetic and functional points of view, being referred to by many as the esthetic area. In relation to oral implants the area requires a careful quantitative and qualitative evaluation of the available bone structure. When bone loss occurs, the alveolar crest may approach anatomic structures.Under these conditions, the nasopalatine nerve and vessels may ultimately emerge from the ridge crest.
Materials and methods: The study was performed radiological on 100 subjects who had maxillary computed tomography scans before dental implantation as well as through measurements performed on 50 skulls having edentulous spaces in the frontal maxillae.
Results: The canal diameter was wider along the degree of ridge resorption in all dimensions, mainly in the palatal opening, middle area, and nasal area. The anterior palatine canal, which passes along the midline and exits on the lingual aspect at the base of the ridge sets the middle border of the alveolar crest. There is significant variation in canal width and volume of available bone in the frontal area. The average width between the bucal part of the bone and the anterior palatine canal is 7mm
Conclusions: Canal diameter enlargement was greater anteriorly to the ridge and posteriorly to the palatal bone, mainly because of tooth extraction. The atrophy of disuse may influence surrounding structures, similar to the maxillary sinus tendency to expand into surrounding bone mainly after tooth loss.To avoid the anterior palatine canal it is better to avoid the midline during implant insertion

Keywords: incisive canal,dental implant,available bone

32. AN ESTHETIC SOLUTION FOR SCREW-RETAINED IMPLANT SUPPORTED FIXED PARTIAL DENTURE

Emre Tokar, Serdar Polat
Turkey

Introduction: Screw-retained restorations necessitate precise implant positioning for a proper palatal position of the screw access hole that does not interfere with esthetics. However, clinical cases where implant screw-accesses open up the buccal surface involve important aesthetic problems for the screwed prostheses.
Case report:
A 46 years old woman presented with anesthetic condition of left maxillary implant supported screw-retained fixed partial denture (FPD). Screw-accesses channel opened up from buccal surface of 3 units metal-ceramic FPD. FPD was unscrewed and impression copings was inserted to implants. Maxillary arch's impression was made with elastomeric impression material. The patient's FPD and abutments were used because of economic consideration. Buccal veneering porcelain of the FPD was cut off and metal framework was casted in order to metal-ceramic veneer restoration. Metal framework was layered with feldspathic porcelain. As is the case with veneer cemented to screw-retained abutments, a soft material (cotton pellet) was used to cover the abutment screw and fill part of the access opening. The metal-ceramic laminate veneer was finally bonded with dual-cure polymerizing restorative composite resin. The definitive restoration displays optimal function and esthetics. The restoration has been in place for 9 months without complications.
Conclusions: The advantages of screw retained restoration compared to a cement-retained restoration include retrievability and no risk of cement remnants, thereby eliminating the possibility of irritation of the periimplant tissues by such remnants. However, the presence of a screw access opening decreases fracture resistance of the porcelain. This design was motivated by the interference of the screw-access channel with the buccal surface.

Keywords: implant supported FPD, repair technique

33. SOLUTION TO THE RETENTION PROBLEMS OF COMPLETE DENTURES. MINI IMPLANTS

Ioannis Papathanasiou, Giorgos Vasilakos, Lambros Zouloumis
Greece

Introduction: Osseointegrated dental implants have radically changed the field of prosthetic rehabilitation during the last decades. Their use provided solutions for difficult cases of absorbed mandibles that could not be faced otherwise with classic prosthetic restoration or with standard-diameter dental implants without grafting due to inadequate facial-lingual bone. Our purpose was to investigate the use of narrow-diameter (1,8-2,4 mm) implants in atrophic mandibles in cases of edentulous patients, who experienced serious problems of lack of stability and retention of their mandibular complete dentures together with a decreased chewing ability, and to estimate the degree of patients' satisfaction.
Materials and methods: Our purpose is to present representative cases of edentulous patients experiencing retention problems with their mandibular complete dentures, rehabilitated with the use of mini dental implants. Follow up lasted for 18 months.
Results: During this period the failure of one mini implant two months after its initial placement was recorded, without affecting the retention of the denture and the satisfaction of the patient provided by this type of implant. The retention of dentures in all of the cases was excellent and patient's satisfaction was great as all the functional difficulties were solved.
Conclusions: The use of mini dental implants is the less invasive procedure to solve the retention problems of full dentures in absorbed mandibles that could not be done with other conservative methods. Particularly, their use

present many advantages such as transmucosal placement without a mucoperiosteal flap, immediate retention and loading of the denture, simplicity of the method, minimized cost, pain and trauma compared to bone grafting procedures or placement of conventional dental implants.

Keywords: mini implants, retention problems of complete overdentures

34. SELECTION OF ATTACHMENT TYPE FOR IMPLANT SUPPORTED MANDIBULAR OVERDENTURES

Sadullah Uctasli, Bedriye Gizem Celebioglu, Kivanc Turkoglu, Secil Nigar Karadeniz
Turkey

Introduction: The selection of an attachment system is mainly related to the personel choice of practitioner and/or laboratory responsible, based on experience and training.
Anchorage devices used for overdentures as unsplinted or splinted type. Unsplinted (Single elements) type in itself divided into three. Single retentive anchors (stress breaking mechanism), single magnet anchors (stress breaking mechanism) and individually cast telescopic copings (rigid mechanism). Splinted type also divided into three subgrups. U-shaped bar (rigid), round clip bar (stress breaking mechanism) and egg-shaped Dolder bar (stress breaking mechanism). Ball attachments or locator attachments are belonging to the single retentive anchors group.
The aim of this study was to compare ball and locator attachments within implant supported mandibular overdentures opposed to complete dentures using patient centred outcome measures.
Materials and methods: 10 maxillary and mandibular edentuluous patients were treated first with conventional complete dentures and after 3 months dentures usage, patient satisfaction was measured utilisng Visual Analogue Scale (VAS). Then same patient group was undergone two interforaminal implant treatment. Implant systems were enable to apply both ball and locator attachments. First 3 months ball attachments and second 3 months locator attachments were fitted and patient satisfaction from different attachment systems were obtained after 3 and 6 months usage utilising VAS. Statsitical analysis was performed using three way ANOVA ($p<0.05$).
Results: Using VAS, patient satisfaction was related with the type of denture design. The lowest patient satisfaction was obtained from conventional complete denture design ($p<0.05$). Although there was not statistically significant differences between attachment types, using locator attachments gave higher VAS value.
Conclusions: Patient satisfaction improved significantly using implant supports. Both attachment types provide significantly greater satisfaction than conventional complete dentures.

Keywords: locator attachment, mandibular overdenture, implant

36. EMERGENCY DENTAL OPERATIONS AND DENTAL IMPLANTS

Vasileiadi Christina, Sotiri Venetia, Almagout Peter, Tzoumaka Artemis
Greece

Introduction: Emergency dental operations are considered all the not planned dental treatments. For example, a patient falls, loses his front teeth and come to the dental clinic after one hour to receive emergency treatment. The emergency situations are complicated on their handling especially when there are plenty of treatment options which influence the treatment approach and methodology, not only of the extraction but also of the placement of the temporary restorations. Crown and root fractures are ideal clinical incidences for immediate implant placement because of the absence of infection and periapical lesions, normally seen on endodontiacally treated teeth. Not taking advantage of the uninfected extracted root socket by immediately placing a dental implant, can sometimes lead to more than expected bone resorption that can jeopardize the success of the dental implant treatment.
Materials and methods: Two 30 years old patients received emergency treatment, including atraummatic extraction of the teeth and immediate placement of a dental implant and of a temporary restoration.
Results: The placement of a dental implant right after an emergency extraction is a beneficial treatment option at the dental clinic. The ability to offer to an emergency patient a short and successful treatment increases the patient's satisfaction, facilitates dental implant placement & treatment, and indicates high level dental services. However, problems must be explained to the patient, options should be discussed and an agreed plan must be prepared.
Conclusions: Emergency extraction and immediate dental implant placement is considered a good solution and usually a predicted treatment option for cases the loss of tooth is not avoidable, like root fractures.

Keywords: dental implant, extraction, immediate placement

Fixed Prosthodontics

1. PROSTHODONTICS IN THE AESTHETIC ZONE: IS IT PREDICTABLE?

Diamantis Tassopoulos, Maria Meintani, Hercules Gousias
Greece

Esthetic dentistry is a delicate combination of scientific principles and artistic abilities. The prosthetic restorations in the esthetic zone need to fulfill all biological criteria and

objective goals. The purpose of this presentation is to describe the methods and materials that can be used in order to establish a predictable prosthetic outcome in the demanding anterior area.

Three clinical cases have been used to describe the management of soft and hard tissue. The pre-operative evaluation of each case consists of photographs, in addition to a full clinical examination and diagnostic study models. The use of mounted diagnostic study models and a diagnostic wax-up allows the dentist to visualize the expected final result, by analyzing the patient's smile. Composite mock-ups, silicone keys and transparent templates transfer this result into the mouth of the patient and can be used as a guide for treatment planning.

The chair-side evaluation of all the above leads the clinician to the final esthetic adjustment of both soft and hard tissues, by using minimal invasive periodontal surgery, temporaries, silicone keys that are used as guides for tooth preparations, intraoral photos and color guides. This valuable information is later transferred to the laboratory in order for the final restorations to mimic the changes that have been made. The prosthetic restoration of the aesthetic zone can be predicted by following a few simple steps, both by the clinician and the technician. These steps will further allow them to use all the benefits of the modern all ceramic materials for their daily clinical use.

Keywords: aesthetics, prosthodontics

2. COMPARISON THE TENSILE STRENGTH OF COMPOSITE REINFORCED GLASS FIBER BRIDGES IN TEETH, PREPARED WITH SINGLE ACID ETCHING AND TEETH WITH COMBINATION OF LASER PREPARATION AND ACID ETCHING

Elena Yoncheva, Dimitar Filtchev

Introduction: The glass fibers and high-intensive lasers enter more often in dental practice. In fibers' structure the glass demonstrates unexpected properties**:** it doesn't blow out, it doesn't break, it bends without destroying. These qualities gives them exclusive strength.

During the last years lasers found application in the tooth preparation, where they leave rough surface, free of smear layer.

Materials and methods: There were prepared 20 stone models with included two natural teeth, arranged like between the teeth is left space for one premolar or molar. They were separated in two groups. In the first group were included 10 models, where were thinned cavities of the teeth with the turbine and diamond bur. The teeth from the 10 models in group 2, were prepared with Waterlase Er,Cr**:** YSGG. On every model, there were made composite adhesive bridges, with the usage of reinforced glass fibers Everstick C&B (Sticktech, Finland). In the cavities of the surrounding teeth were put the main fiber, and after that another additional fiber was put on the vestibular surface. The fibers were covered with composite and the pontic was modeled. The strength of the adhesion of the bridges was tested after 24 hours with a testing machine. There was made pull-out test with weight of 20 kg in experimental testing.

Results: The bridges in the two kinds of models showed high values in the result. Those, prepared with laser, showed higher rates than those, thinned with the turbine.

Conclusions: Between the models from the two groups there were difference in the results. Among the teeth, prepared with turbine during the test we obtained detachment in 2 of the models. The teeth, which were prepared with high intensive laser showed no detachment of the fibers from the dental surface.

Keywords: glass fibers, adhesive bridges, laser

3. TWO YEAR FOLLOW-UP TREATMENT OF A NONSYNDROMIC OLIGODONTIA

Yursen Rana Kuzu, Salih Dogan, Ikbal Leblebicioglu
Turkey

Introduction: Prosthetic treatment could play an important role in the dental management of children whose dentition fail to develop normally. Oligodontia is agenesis of six teeth or more, excluding third molars. Oligodontia can occur either as an isolated condition (non-syndromic oligodontia) or be associated with cleft lip\palate and other genetic syndromes (syndromatic oligodontia). Characteristic dental symptoms are the reduced number of teeth, the reduction in tooth size, the anomalies of tooth form, and the delayed eruption.

Case report: A 5-year, 2-month-old male patient was referred to the Department of Pediatric Dentistry, Erciyes University, Kayseri, Turkey for examination, evaluation, and treatment. Extra-oral examination revealed no abnormalities of the skin, hair, or nails. The intraoral examination revealed the presence of seven primary teeth and four permanent teeth. A panoramic radiograph revealed the presence of thirteen unerupted permanent teeth in the maxilla and mandibula. Familiy history**:** oligodontia was presented in his grandmother and uncle. It was considered appropriate to make a lower and upper acrylic partial prosthesis using steel retainers on some of the teeth present in the arcade. The child was recalled every 6 months, and the parents were asked to present earlier if the child complained of any discomfort. The prosthesis were modified according to the eruption of teeth.

Conclusions: Prosthetic rehabilitation must be done at the earliest age as possible in order to maintain and correct the oral functions and prevent growth anomalies. It makes the subsequent treatment steps easier. Early rehabilitation and follow-up seem to be one of the keys to a successful treatment that help these children overcome their handicap and integrate them into society.

Keywords: oligodontia, primary dentition, dental abnormalities

4. USE OF SIMULATORS OF VIRTUAL REALITY

IN FIXED PROSTHODONTICS

Filippatos G. Gerasimos, Kremmydas Ch. Michalis, Tripodakis A.-P.
Greece

Introduction: Over the last decade, virtual reality applied for educational purposes in many scientific disciplines including department of fixed prosthodontics of University of Athens. Virtual reality simulators provide a safe and economical way of understanding the educational purpose in dentistry. Students are practicing in such simulators at the preclinical stage of their education. In the present thesis are presented virtual reality simulator models, consisting of a manikin with head mounted on a unit that resembles dental chair.
Materials and methods: Students are invited to practice their psychokinetic skills and be evaluated on them. The interest of the assessment was focused on**:**
1) The frequency of the need of the student for participation of the assistant during clinical teaching and interim evaluation of the progress of the student.
2) The opinion of the student for the positive or negative role played by simulation in a clinical exercise.
3) The debate about the student's knowledge and the better understanding of the course.
4) The better preparation of the student as to be able to create a comprehensive treatment plan.
In a sample of 130 students were brought to the laboratory of clinical simulation, of the department of fixed prostodontics of University of Athens, was given a questionnaire and was analyzed their critical attitude and position.
Results: Data results were analyzed statistically in order to make suggestions so that the virtual reality simulators to be used extensively as a highly reliable educational tool.

Keywords: Simulators, prostodontics, virtual reality

5. MODERN TECHNIQUE FOR THE FABRICATION OF OCCLUSAL APPLIANCES USING THE ECLIPSE SYSTEM

Marcauteanu Corina, Eniko Tunde Stoica, Cristina Bortun, Luciana Goguta, Anca Jivanescu
Romania

Study objectives: The stabilization appliance is an reversible oclussal treatment method, useful in patients with bruxism and/or temporo-mandibular disoders. The dental literature describes many fabrication techniques for the appliance (direct or in the dental laboratory; using self-curing acrylic, heat-curing acrylic or termovacuumforming sheets). This study presents our experience in the fabrication of stabilization appliances using the Eclipse Prosthetic Resin System (Dentsply).
Materials and methods: The Eclipse system was used for the fabrication of a stabilization appliance in patients with severe sleep bruxism. The parafunction was confirmed by means of BiteStrip recordings (3 nights/1 month). The Eclipse system includes a polymethylmethacrylate-free, light-curing, clear resin. The hard maxillary occlusal appliance was realized on a semi-adjustable articulator Artex Type CR (Amann Girrbach).
Results: The Eclipse system allows the easy shaping of the occlusal appliance parameters (flat occlusal surface, stable centric stops, canine disclusion of the posterior teeth during eccentric mandibular movements). The appliance needed minimum adjustments through selective grinding and the patient was very confortable with it. Its design provided the reduction of parafunction, stabilization and unloading of the temporomandibular joints, protection of teeth and restorations, redistribution of occlusal forces, relaxation of the elevator masticatory muscles and a decrease in dysfunctional symptoms.
Conclusions: The Eclipse system offers an alternative efficient technique for the fabrication of stabilization appliances, especially in heavy bruxers, were termovacuumformed appliances have failed.

Keywords: Occlusal appliance, Eclipse System, bruxism

6. ORAL REHABILITATION OF A PATIENT WITH HYPOPLASTIC TYPE OF AMELOGENESIS IMPERFECTA

Sedat Güven, Veysel Eratilla, Süleyman Agüloglu
Turkey

Amelogenesis imperfecta (AI) is a hereditary disorder expressing a group of conditions that cause developmental alterations in the structure of enamel. AI is a serious problem that reduces oral health-related quality of life and causes some physiological problems. The treatment of patients with AI may upgrade the quality of life and reinforce their self-esteem. Among the treatment options for AI, full-mouth metal reinforced porcelain restoration constitutes an important alternative because of its properties.
Children with amelogenesis imperfecta (AI) experience many oral difficulties including sensitivity and aesthetics.
Introduction: This case report describes the management of tooth tissue loss of a 20-year-old male patient with a history of amelogenesis imperfecta. Full-mouth oral rehabilitation with porcelain veneers was applied.
Case report: A 20-year-old male patient presented with a chief complaint of discolored teeth. Tooth crowns were clinically short and featured yellow-brown colored surfaces. Tissue loss affected all teeth.Clinical crown lenghts were not adequate,so first periodontal crown lenghtening was applied. After radiographic examination of crown/root ratio, root number and morphology of the present teeth, construction of full-mouth metal reinforced porcelain fixed bridge restoration was planned. The occlusal vertical dimension was 3 mm lower than normal. First of all, a splint, made of self cured hard acrylic, was constructed to increase the vertical dimension. After increasing vertical dimension, full-mouth porcelain veneers were applied. Follow-up visits were scheduled at 3 months and then at 6 months.
Conclusions: AI is associated with multiple non-enamel anomalies and requires a complex treatment. Treatment

planning is related to the age of the patient, the type and severity of the disorder, and the oral health of the patient. Early diagnosis, preventive care and timely treatment are of foremost importance to improve oral health in children with AI. At this case, No esthetic or functional problems were seen.

Keywords: Amelogenesis Imperfecta, denture

7. DENTINOGENESIS IMPERFECTA, A CASE REPORT

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Turkey

Dentinogenesis imperfecta (DI) is characterized clinically by opalescent and translucent dentin due to a mesenchymal defect. The primary teeth are more severely affected than is the permanent dentition. The color of the teeth varies from opalescent gray or brown to yellow, and both upper and lower dentitions are involved. Radiographically, the crowns of the teeth are bulbous with marked cervical constrictions, and pulp chambers become obliterated over a
period of time. The thickness and radiodensity of the enamel are normal. Significant attrition can be seen over a short period of time.
This case report describes the management of tooth tissue loss of a 17-year-old male patient with a history of dentinogenesis imperfecta.
Case report: A 17-year-old male patient reported to the Department of Prosthodontics of the dentistry faculty of the university of Dicle with complaints of esthetics and the wearing away of all his teeth and hence desired to have them replaced by prostesis. All teeth were yellowish Brown in color and small in size. All teeth also showed attrition, with complete loss of enamel. The coronal height of the teeth was reduced to one-third of the normal. There were apical cysts in relation to impacted teeth, they were treated then fixed prostheses was managed to the mandible and removable overdenture prosteses was managed to the maxilla.
DISCUSSION
The rehabilitation of a patient with dentinogenesis imperfecta by means of the multiple porcelain veneer crowns and removable maxillary overdenture prosteses is described. The advantage of the presented treatment is the esthetic result in combination with a material of high mechanical and biological quality.

Keywords: dentinogenesis imperfecta, denture

8. DYSFUNCTIONAL BEHAVIOR OF THE TMJ RELATED TO THE INTEGRITY OF THE DENTAL ARCHES

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Romania

Introduction: Due to its structural and functional complexity, the TMJ undergoes important morphological changes during the course of life, being influenced on the one hand by the physiological degeneration caused by ageing and on the other hand by the dysfunctions that may occur, as a result of general factors (metabolic, endocrine, neuro-psychical or vascular diseases) or local factors (malocclusions, muscular dysfunctions, partial or total loss of teeth, improper or lack of prostheses).
Aim of the study: was to determine the incidence of the dysfunctional signs of the TMJ in elderly patients, related to the loss of occlusal support.
Materials and methods: The study was performed on 129 patients that requested complex prosthetic treatments (56 men and 73 women, with ages ranging between 30-87 years, the average age being 60.8 years). The clinical examination and the laboratory tests were aimed to identify the muscular and joint dysfunctional signs and to estabilish the level of integrity of the dental arches. All data was centralized and then statistically anlysed.
Results: The correlation statistical analisys indicate a significant correlation ($r= 0,62$; $p < 0,001$), positive and dependent, between the occuring of the subjective signs of the TMJ dysfunction and the loss of teeth.
Conclusions: Ageing is significantly correlated with the alteration of the dental arches as a result of the loss of teeth. The loss of the occlusal support, due to edentation, can cause subjective and objective signs of TMJ alteration, their incidence being proportionate with the extent of these losses.

Keywords: temporomandibular dysfunctions, edentulous, occlusal support.

9. POSSIBILITIES AND RESTRICTIONS OF PREPROSTHETIC AND PROSTHETIC THERAPY OF HIV INFECTED PATIENTS

Srdjan Postic, Marina Latkovic
Serbia

Introduction: Human immune-deficient virus (HIV) infected patients are risk group of patients in dental practice. Application of highly active antiretroviral therapy (HAART), a number of CD4+ lymphocytes and oral manifestations of HIV determine dental therapy.
Aim of this study was to show a possibilities and restrictions of conservative restorative and prosthetic therapy of HIV infected patients.
Materials and methods: 5 patients with HIV infection (2 men and 3 women), with certified results of ELISA and Western-blot tests to HIV infection, have come because of restorative dental therapy. Neither of the patients has been included in HAART. In these patients, different manifestations of HIV infections were shown in their mouths.
Results: Clinical findings were different. In two patients there were not oral manifestations of HIV infection. In two patients there were signs of HIV infection with pseudomembraneous candidiosis on dorsal and lateral

sides of a tongue and pronounced symptoms of HIV periodontitis. In the mouth of the one patient Kaposi sarcoma was confirmed, accompanied with regional lymphatic noodles edemas. Respecting variations in clinical findings, patients were endodontically treated, and metal-ceramic crowns were cemented in two patients. In a one patient acrylic dentures were positioned in her mouth. In one patient some teeth were prepared for fixed restorations, but therapy was deceased because of worseness of clinical situation and progressive HIV infection.
Conclusions: A degree of later of HIV infection dictates possibilities of sanitation and dental therapy. For AIDS patients with Kaposi sarcoma it is not possible to manufacture removable dentures.

Keywords: HIV, prosthetic therapy, conservative therapy

10. FPD WITH A MODIFIED ENDOCROWN CEMENTED ON THE DISTAL MOLAR

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Bulgaria

Introduction: Even though in the initial exam a case seems relatively easy with a standard treatment plan for a fixed partial denture in the area of 14-17 a number of factors can make the clinical decision hard. Such factor that ensures the stability and thereby the longevity of the construction is the vertical crown height. In cases where the vertical crown height is insufficient for a proper retention of a construction there are a few options available. One of those options is the use of endocrowns. The endocrown is a restoration witch consists of a circular butt-joint margin and a central retention cavity inside the pulp chamber and lacks intraradicular anchorage.
Case report: A 46 year old patient came to us because of chewing difficulties and disturbed aesthetic appearance related to extracted teeth 15 and 16.A decision was made for a fixed partial denture to be made with abutment teeth 14 and 17. Tooth 17 was endodontically treated and with a severe crown destruction. The distance between the edge of the marginal gingiva around the distal abutment tooth and his antagonist was below 3 mm which imposed the use of the pulp chamber and the distal root canal for accessory retention. The distal root canal was prepared and an impression was taken for the fabrication of metaloceramic bridge manufactured with the model-cast technology. Because of the insufficient space for the construction a metal frieze was made to ensure a better fracture resistance in the distal connector area.
Conclusions: Even when a clinical case seems relatively easy during the preliminary exam a deep analysis for the clinical situation should be performed to ensure optimal results.

Keywords: endocrown, FPD

11. THE IMPORTANCE OF CENTRIC BRUXISM IN THE ETIOLOGY OF ABFRACTIONS

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Romania

Study objectives: Centric bruxism (jaw clenching) is noiseless and the damage usually occurs before it is detected. We studied the importance of this parafunction in the etiology of abfractions. These noncarious cervical lesions are often associated in the dental literature and in practice with the grinding of teeth. We used the finite element method (FEM) to investigate the role of jaw clenching in the mechanism of abfractions.
Materials and methods: We developed a three-dimensional finite element model of the first maxillary premolar in order to compare the stress profiles in the buccal and oral cervical regions under functional (20 N) and parafunctional (800 N) occlusal loads. The discretization of the tooth morphology resulted in 18889 elements and 31425 nodes. The various tooth structures were assumed to be isotropic. The model is subjected to occlusal analysis. The occlusal forces were applied in the mesial fossa and on the oral cusp in a particular manner, in order to simulate a maximum intercuspidation.
Results: The equivalent tensions (Pa) found in the buccal cervical region of premolars at the application of parafunctional occlusal loads (800 N) are high enough to induce the breakdown of tooth structures**:** 8.41E+08 in enamel and 7.64E+08 in dentine. Cervical stress induced by masticatory forces (20 N) has much lower values, which are not harmful for the dental hard tissues.
Conclusions: Centric bruxism generates an occlusal overload that can cause in time complications like buccal abfractions.

Keywords: Abfractions, centric bruxism, finite element method

12. ALL-CERAMIC FIXED PARTIAL DENTURE FOR CLEFT LIP AND PALATE PATIENT

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Turkey

Introduction: Many cleft lip and palate patients who undergo prosthodontic procedures have already undergone one or both of surgical and orthodontic intervention. These patients eventually require definitive fixed or removable prostheses for aesthetic and functional demands when they become adults. Esthetics are especially compromised in the maxillary anterior portion of the mouth where the pontic-ridge relationship of the deformed area may differ from the dentogingival relationship of adjacent unmutilated areas.
Case report: A 23-year-old woman with bilateral cleft palate and unilateral cleft lip was referred to the Department of Prosthodontics at Ankara University. She had already completed her surgical and orthodontic treatments in the same university and subsequently presented for prosthetic evaluation. Clinical examination

revealed a repaired bilateral cleft palate and moderate tissue deficiency with a fistulae in the palate. This fistulae extended leftwards to the alveolar ridge and this defect caused a space between upper right lateral incisor and canine. A zirconia all-ceramic fixed partial denture (LavaTM All-Ceramic System, 3M ESPE Dental Products, St. Paul, MN) was chosen as a definitive restoration since this system has an acceptable marginal fit, adequate function, excellent esthetic properties. The gingival margins of the right canine pontic and lateral incisor abutment were not at the same level with the other abutment teeth so pink porcelain was used after this level. As the gingival margins were not visible in the smile line, the defect on the alvealer ridge could also be restored by extending the length of the canine pontic with pink porcelain.
Conclusions: In the prosthodontic treatment of the cleft lip and palate patients, it is imperative to prevent the regression and collapse of the alveolar segments and the teeth after surgical and orthodontic correction. This zirconia all-ceramic fixed partial denture has functioned favourably without any fracture or colour degradation for 2 years.

Keywords: cleft lip and palate, all-ceramic fixed partial denture, pink porcelain

13. THE EVALUATION OF POSTERIOR TOOTH LOSS BY T-SCAN OCCLUSAL ANALYSIS SYSTEM

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Turkey

Objective: Masticatory function should be evaluated in the literatures as a whole.Masticatory fuction is releated to the number of functional teeth and chewing function of bite force. The purpose of this study was to compare individuals with posterior tooth loss occlusal forces with T-scan analysis system.
Materials and methods: Kirikkale University Faculty of Dentistry, presented the study and completely dentate 6 women, 9 men and 8 women and 11 men with a loss of molar teeth in one side. A total of 34 patients who include this study (mean age; 35,82 ± 9,56, 22-57 years) have the same inclusion criteria. T-Scan (T-Scan II, Tekscan, Inc.., Boston, MA, USA), is a system that allows the measurement of occlusal contact data. This system has a sensor, handle, process unit, an operating system and a board which is composed of printer and computer. Statistical analysis of the data Student t-testi and Mann Whitney-U testi were used.
Results: In this study, the localization of the maximum forces under the center of gravity of the occlusal contacts and the degree of right-and left-hand side are evaluated. Dental T-Scan occlusal analysis system and the evaluation of patients without lack of a more balanced distribution was observed in the posterior tooth loss in individuals in extreme and unbalanced force fields have been identified. In consequence of T-Scan occlusal analysis system and the evaluation of patients, it was found that more balanced distribution was observed in the posterior tooth loss in individuals in extreme and unbalanced force fields have been identified.

Keywords: Posterior tooth loss, occlusal forces, T-Scan Analysis

14. WHEN, HOW, WHY: REPAIRING OF FIXED PARTIAL DENTURES (FPD)

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FYROM

Introduction: During the period after fixed partial dentures (FPD) insertion into the oral cavity, several kinds of damages on the crowns or pontics or some other causes who are directly responsible for the failure of the same ones may occur.
Objective: Our object is to present the causes of FPD damages, possibilities for restauration, and at the same time to answer the questions when, how, why do FPD need repair.
Materials and methods: The group of fifteen FPD patients, which consisted of nine females and six males, aged twenty-five to ninety, was divided into 3 groups with 5 patients. In the first group we restored FPD which had mechanical (fractures, separations, or making openings on the crowns because they needed endodontic retreatment) and chemical damages of the dental veneers. In the second group we did restaurations on FPD abutment teeth (recessions, cervicular decay and periapical changes (PAC), and in the third group we did restaurations on FPDs, who needed recementation.
Results: During the 6 months control period, all FDP repairments showed satisfactory success from esthetic, phonetic and masticatory point of view
Conclusions: These clinical repairment techniques for FPDs can help prevent the need for replacement of the entire restauration. The therapeutic treatments are less costly, less invasive and faster (requires much less chair time) and have served as an acceptable alternative especially for patients with financial problems who could not afford making new ones. The patients with the repaired FPDs were happy with the aesthetic results achieved and they were twice as happy to discover that the cost of repairing was about a quarter of the cost of fabricating a new FPD.

Keywords: Restorations, FPD, a direct repair technique, laboratorical, aesthetics, function

15. INFLUENCE OF HYALURONIC ACID TO REDUCTION OF IMFLAMMATION AFTER PREPARATION OF TEETH

Ahmedin Zilkic, Srdjan D. Postic, Esad Kucevic, Refik Huduti Etemovic
Serbia

Hyaluronic acid (H) actively influences tissue regeneration, and reduces inflammation.
Aim of this study was to assess influence of hyaluronic acid to gingival and periodontal soft tissues during tooth

preparation and after preparation of teeth by diamonded burs.
Materials and methods: Gingival tissues of total of 117 teeth were assessed.49 teeth were prepared with low or moderate inflammation of gingival tissues during tooth's preparation or after preparation in 31 men patients (mean age 43yrs) i 11 women patients (mean age 45yrs)-experimental group (E). The control group (C) was consisted of 7 dentated men (mean age 39 yrs) and 7 dentated women (mean age 42 yrs.) without gingival inflammation around tooth in jaws. For assessment of soft tissues condition, gingival indexes according toLőe-Silness-u (LSI) and Schour and Massler (SMI) were used. Values of indexes were measured at the baseline and 2 and 7 days after application of H (Gengigel prof. gel 0,8% hyaluronic acid, Ricerfarma) to gingival tissues and soft tissues, in C and in E.
Results: Gingival indexes in C amounted LSI=0 I SMI=0 before application of H and after application of H. For E, numerical values of indexes around prepared teeth were LSI=1,2 and SMI=1 prior to application of H, and at the initial phases of tooth's preparation. After 2 days and after 7 days of application of H after preparation of teeth LSI=0 and SMI=0. For E, in the mouths of a patients, indexes were measured around not-prepared teeth, LSI=0 and SMI=0, but around prepared teeth, at the same time too, and amounted LSI=1.3 and SMI=1, before application of H, and LSI=0 I SMI=0, after application of H.
Conclusions: The hyaluronic acid substance successfully influences reduction of gingival inflammation which could happen during tooth's preparation for fixed restoration.

Keywords: Gingiva, Periodontal tissue, Tooth, Fixed restoration

16. RESTORATION OF A MOLAR DIAGNOSED WITH ALTERED PASSIVE ERUPTION

Viktor Yordanov Hadzhigaev, Stefan CHavdarov Zlatev
Bulgaria

Introduction: Altered passive eruption is a rare diagnosed clinical situation. It is produced by excessive gum overlapping over the enamel limits,resulting in a crown with a reduced vertical height which gives the sensation of hidden teeth. The most important aspects of APE are considered to be aesthetical, although in the case presented, there are difficulties in the tooth restoration related to this condition.
Case report: A 46 year old patient came to us with a request for restoration of tooth 36, that presented itself with two large amalgam obturations, one of which was fractured and dark colored remaining hard tooth substance. An x-ray image, which showed a previous root canal treatment and the roof of the pulp chamber positioned at the level of the gingival margin, was made. Re-treatment was performed. Intraorally it was observed and tested with an explorer, that the gingival margin was above the dento-gingival junction. Bone-sounding was performed which showed that the edge of alveolar bone is at the level of the DGJ. The performed tests and the x-ray image, mentioned above, determined the diagnosis altered passive eruption for tooth 36 and for the adjacent teeth. Because of insufficient hard tooth substance to retain a crown, the root canals were prepared and a two-part cast metal post was made. The tooth preparation was designed at the level of the gingival edge with a straight angle form. The tooth was restored with a metaloceramic crown.
Conclusions: Although most authors consider altered passive eruption to present itself only with aesthetical issues when distal teeth are diagnosed with such a condition there are few things to be considered if they are a subject of prosthetic restoration.

Keywords: altered passive eruption, restoration, post

17. PROSTHODONTICS IN THE AESTHETIC ZONE.THE USE OF LITHIUM DISILICATE

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Greece

Introduction: In modern dentistry, the prosthetic rehabilitation of the smile is a challenge. The emergence of all ceramic restorations and their development was a milestone in the field of dental materials which has provided effective solutions in the demanding requirements to the anterior area. The current trend in their evolutionary path is to try to follow the natural appearance of the dentition. In this project we are presenting the latest all ceramic systems, specifically lithium disilicate.
Materials and methods: In the present study we are analyzing the applications of the material in a clinical and a laboratory scale through two clinical cases. In the first case we use veneers in order to correct the shape and size of the anterior dentition. In the second case all ceramic crowns and veneers are used to transform a discolored smile. Both cases are restored by using restorations of lithium disilicate.
Results: Lithium disilicate offers improved characteristics in both physical and optical properties as it can provide natural transparency in the restoration. That makes the material a safe option in clinical cases with discolourful dental tissues and in combination with different types of restorations. Lithium disilicate gives consistant results and simulates the natural aesthetics. Moreover, lithium disilicate can be used in cases where young patients having unchanged characteristics of natural teeth, both in color and cutting slides, are restored, as it provides the aesthetic requirements of the natural enamel surface.
Conclusions: The clinician is responsible of selecting the restorative material for each clinical case. The knowledge of the material's properties and all the necessary clinical stages should be taken into account in order for the dentist to be able to restore the smile.

Keywords: prosthodontics, lithium disilicate

18. RE-TREATING A DENTITION WHILE

PRESERVING NATURAL TRANSLUCENCY WITH LITHIUM DISILICATE

Bariş Karabulut, Atakan Kalender, Deniz C. Can-Karabulut
Turkey

Introduction: Dental ceramics with high translucency are useful when the overall enamel color is pleasing and the only restorative goal is to replace external colored composite surface without changing the tooth form significantly. However, to date an inverse proportion between the mechanical performance and optical properties exists. Ceramics with high strength tend to be more opaque while matching natural tooth color.
Case report: The patient's main complaint was about the discolored teeth restored with composite laminate veneers previously. Because the occlusion or color will not be altered translucent ceramics were preferred due to their enamel like appearance. The treatment goals were to manage the discoloration and yet retain as much of the original volume of the tooth structure. A prospective restoration was visualized by diagnostic wax-up and mock-up techniques. For a conservative enamel preparation silicone matrix was used as a reference for tooth reduction. Regarding selection of the ceramic framework, a feldspatic porcelain (aluminosilicate glass) reinforced with lithium oxide was chosen to manufacture the inner coping of the restorations and latter covered with fluor-apatite ceramics.
Conclusions: With the great variety of clinical situations, not all ceramics behave as required. The dental porcelain material best suited to the physical and optic requirements of each case should be selected. The knowledge of the optical properties is important in making appropriate choices. For teeth with normally colored preparations like in this case, translucent materials enable clinicians to reduce less tooth structure. For the requirements for optical properties the translucent systems, either feldspatic or pressed ceramics (glass ceramics) should be used owing to their ability of bonding to tooth structure, as well as to their translucency while zirconium oxide have a very poor translucency and inadequate mechanical retentive ability. By combining the press and layering technique, highly aesthetic, strong veneers can be created.

Keywords: natural translucency; lithium disilicate; re-treatment

19. IMPORTANCE OF NUMBER OF IMPLANTS AND THEIR POSITIONS IN COMPLETE DENTURE'S RETENTION

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Serbia

Introduction: Complete dentures on implants are widely used in modern dental clinical practice.
The aim of this study is to assess what number and which distribution of location of implants could be favorable in complete denture's retention
Materials and methods: 7 edentulous patients having different location of implants in edentulous jaws were analyzed. The needed number of implants that has to be positioned in the jaw has been analyzed. The analysis assumed analysis of panoramic radiographs of the jaws, as well as clinical assessment of condition-form and shape and consistency of edentulous ridge in the mouth.
Results: It was established that the minimum of implants that has been positioned in the edentulous jaw, was 2. In the clinical conditions, the retention of a denture should have been provided using 4 implants. The best effect of retention is provided by 4 implants positioned in the anterior segments of edentulous jaws, and 2 implants positioned laterally in a region of chewing center to the left and to the right side.
Conclusions:
The arrangement of 6 implants-4 implants positioned anteriorly, and 2 implants to the lateral side in transcanine region provided favorable retention and stabilization, but arrangement of implants of that kind is hard to obtain in edentulous jaw, particularly for elderly and old patients. Completely satisfactory results would be provided with positioning of 2 implants in anterior region, which should significantly contribute to the stability of complete denture.

Keywords: Implant, Edentulous, Denture

20. USE OF AN INDIVIDUAL MANDIBULAR ADVANCEMENT DEVICE FOR AN OBSTRUCTIVE SLEEP APNEA PATIENT WITH FACIAL PARALYSIS

Bulent Piskin, Cumhur Sipahi, Murat Kose, Omer Karakoc, Haldun Sevketbeyoglu, Gokce Kaan Atac
Turkey

The present case report aimed to describe the fabrication procedure and treatment efficacy of an individual, one-piece, non-adjustable mandibular advancement device (MAD) for a moderate obstructive sleep apnea patient with facial paralysis. MAD was fabricated with autopolymerizing acrylic resin (PMMA). The intermaxillary relations were recorded such as to fix the mandible at a protruded position with increased vertical dimension. Initial evaluation of the MAD was performed with axial magnetic resonance imaging (MRI) and polysomnography (PSG) on the first day of usage. Following evaluations were performed on the 90th, and 180th days. After a follow-up period of 6 months the Apnea/Hypopnea Index (AHI) significantly decreased from 26,7 to 3,0. However the average oxygen saturation did not improve as expected initially. At the end of a follow-up period of 6 months, the patient did not report any serious complaint except temporary tooth pains.

Keywords: Mandibular advancement device, sleep apnea

21. STOMATOGNATHIC DYSFUNCTION SYSTEM

(CASE REPORT)

Despa Elena Gabriela, Mihai Cristina Nicoleta, Biclesanu Cornelia, Candescu Graziella, Mihai Laurentia
Romania

Introduction: The treatment is varied and complex, always have as major objective the reduction of pain, that patient be able to work within bearable limits. All interventions are recommended to be observed, monitored for long periods of time to detect any signs of dysfunction that may recur.
Case report: C.B. aged 48 years old was presented for the following applications and request**:**

- changes of the facial figure due to decreasing lower floor,
- change of the occlusal vertical relations in the frontal areas,
- for restoration of masticatory function,
- because he had gastro-intestinal disorders.

On clinical examination it was found**:**

- Presence of edentulous class-III-2-Kennedy (with 2 changes) amendment prosthetic to the upper jaw elevation partially incorrect
- Presence of edentulous class- III-2-Kennedy (with 2 changes) un-establish to the lower jaw;
- Toothless cause was complications caused by dental caries;
- Lowering occlusion with reduced vertical dimension of occlusion;
- Restoration of aesthetic function (modified by the presence of the edentulous space and a dial, drum bridge occlusal plane by incorrect quadrant 2).
- Painful sensations at both temporo-mandibular joints.

The treatment plan was established in conjunction with the diagnosis, they were staged interventions were necessary**:**

- repositioning of the mandible was performed using a palatal acrylic plates bordered by occlusion of the same material;
- period of treatment for repositioning and lasted 60-65 days retouching;
- provisional prosthetic restoration of dental acrylic over four decks, finishing touches being made to the slopes and sides of the cusps, to the upper and lower jaw;
- restoring the integrity of the two dental arches by four metal-acrylic bridges.

Conclusions: Palatal plate application has pursued four objectives**:** reposition the jaw in all areas (frontal, sagittal and horizontal) direction in relation centric jaw, obtain maximum inter-cusps position, restoration of facial appearance due to the lower floor DVO resizing.

Keywords: stomatognathic dysfunction system, repositioning of the mandible was performed using a palatal acrylic plates,provisional prosthetic restoration of dental acrylic over four decks

22. ANALYSIS OF CONDYLAR GUIDANCE INCLINATION IN SUBJECTS WITH AND WITHOUT TEMPOROMANDIBULAR DISORDERS

Dodic Slobodan, Kosovka Obradovic
Serbia

Analysis of condylar guidance inclination may offer a lot of information needed for a proper diagnosis in managing the patients with TMDs. The aim of this study was to correlate the characteristics of condylar movements in patients with TMDs and in asymptomatic volunteers.
Materials and methods: Two groups of volunteers between 18 and 26 year of age were established for this investigation; The study group consisting of 30 persons exhibiting signs (symptoms) of TMD, and the control group consisting of 30 persons without any sign (symptom) of TMD. The presence of TMD was confirmed according to the RDC-TMD (Schiffman 1992) The functional analysis of condylar guidance inclination was performed in each subject using the computer pantograph Arcus-Digma (Kavo Elektrotechnishes Werk GmbH Germany)
Results: The results of this study did not confirm any signifficant differences between the values of the condylar variables (sagital condylar inclination, length of the sagital condylar guidance, the benett angle) in the control and in the experimental group.
Conclusion The pantographic tracings of condylar guidance inclination can be used as valuable guides in diagnosis of the TMD and evaluation of appropriate therapeutic procedures in these patients.

Keywords: Pantographic registration, condylar inclination

23. ABRASION ROVD & TREATMENT

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Albania

Introduction: Abrasion is a pathology that is characterized by tooth stability, while clinical crowns vary in size and form as a result of functional over load. Restoration of severely worn dentition frequently presents challenges in patient management, diagnosis treatment planning, restoration methodology. Prosthetic restoration of severy worn dentition varies from simple procedures to very complicated reconstructions, depending on the severity of the case. The presentation Abrasion, Reduced Occlusion Vertical Dimension and Treatment is based on the study and treatment of 174 patients with abrasion reduced vertical dimension, loss of distal teeth, abrasion in frontal and distal teeth in 2004-2009 period. The pathogenetic factor of 50% these patients was distal teeth removal, of 30% was the pathologic abrasion and 20% of them wrong prostheses.
Aim**:** To provide a normal occlusion plan biting, aesthetic and phonetic function.The degree of the difficulty of treatment depends on**:** the size of there reduced occlusion, the type of pathology teeth, topography and

degree of their deterioration. The treatment of abrasion in patients with reduced occlusion vertical dimension is achieved through the increase of vertical dimension from 4mm to 6mm which makes it possible to reconstruct clinical crown in accordance with rest position, anatomic, physiology of which case. Several photos of clinical cases are also included**:** case report (1) case report (2) and case report (3).
Conclusions: Abrasion in a pathology treated through specific interventions, step by step that can go as the whole reconstruction of crowns combined with a normal occlusion. Vertical dimension is increased in accordance with degree of its tooth loss. The treatment of reduced vertical dimension is made through fixed, removable prostheses and combined prostheses.

Keywords: abrasion, vertical dimension, increase, fixed, removable,combined, prostheses

24. IMPRESSION METHODS AND TREATMENT STRATEGIES FOR PATIENTS WITH MICROSTOMIA

Erdogan Ozge, Bilmenoglu Caglar, Geckili Onur, Bilhan Hakan, Bilgin
Turkey

Introduction: Microstomia is defined mainly as a congenital or acquired reduction in the dimensions of the oral aperture, although the intraoral structures and anatomical landmarks from which impressions are taken for construction of complete dentures may be within normal sizes. This condition raises a major limitation in manufacturing the prostheses both for the dentist and the patient, thus makes the need for alternative treatment modalities in the process inevitable.
Case report: Three patients suffering with various severity of microstomia are presented in this case series. Sectioned impression trays and impression techniques and the treatment strategies for the three patients are described. All three patients presented with edentulous mandible and maxilla. Case #1 suffered from microstomia because of the scars after a gunshot wound; Case #2 was a burn victim where the excess scar tissue had lead to microstomia and finally Case #3 had received radiotherapy as a child due to multiple tumor lesions which resulted in underdevelopment during the growth of the mandible, causing a severe microstomia. Making the preliminary impressions with standard stock trays were impossible because of limited oral aperture. Consequently, preliminary impression was acquired by placing and molding the silicon putty impression compound around denture-bearing areas via functional and manual manipulation. The custom made acrylic resin trays were fabricated and sectioned bucco-lingually through the midline. This kind of 2-piece sectioned tray was #1 used for making the definitive impressions in all three cases. Case #1 and Case #3 received dental implants and various designs of prosthesis subsequently whereas Case #2 received collapsible complete dentures.
Conclusions: This case series revealed the fact that through well-planned treatment and precise laboratory procedures, even patients with microstomia can be successfully treated with the presented strategies.

Keywords: Microstomia, sectioned impression tray, collapsed prostheses

25. ADDITION OF A PONTIC TO ALL-CERAMIC TURKOM-CERA CROWN RESTORATIONS

Emre Tokar, Bulent Cumhur Uludag, Serdar Polat
Turkey

Introduction: Replacement of a failed all-ceramic restoration is not necessarily the most practical solution, considering replacement cost, compromise of additional tooth structure, and additional trauma to the tooth. A new, all-ceramic material, Turkom-Cera's manufacturers are claimed that addition of a new pontic to the sintered framework.
Case report: A 36-years old male presented with pain from maxillary anterior region. The patient reported he had been constructed all-ceramic crown restorations 4 months ago for maxillary right central incisor, left central incisor and left lateral incisor. Horizontal root fracture was detected on maxillary left central incisor on the whole radiographic examination. Left maxillary central incisor was extracted atraumatically. Right central and left lateral incisors' Turkom-Cera all-ceramic crown restorations were extracted for addition of pontic. Crown restorations inserted again on the prepared tooth and fixed with light-bodied elastomeric impression material and made the impression of the maxillary arch with irreversible hydrocolloid impression material using stock trays. Crown restorations' veneering porcelains cut off from the cores and the new pontic was milled out from the alumina blank and attached to the cores using alumina gel. The fit of the framework was verified intraorally and veneered with veneering porcelain.
Conclusions: A new all-ceramic alumina core material, Turkom-Cera, is being introduced in an attempt to provide a high-quality, high-strength, cost-effective coping that will result in improved clinical success, and provides new concepts on the repairability of failed all-ceramic restorations. This technique is simple, feasible and cost-effective. Long-term clinical trials and mechanical studies are necessary for reliability of this novel technique.

Keywords: All-ceramic, repair techniques

26. CLINICAL MANAGEMENT OF A FRACTURED ANTERIOR TOOTH WITH REATTACHMENT TECHNIQUE: A CASE REPORT WITH 8-YEAR FOLLOW-UP

Ufuk Iseri, Zeynep Ozkurt, Ender Kazazoglu
Turkey

Introduction: Fracture of anterior teeth is a relatively common outcome of trauma to the teeth. Functional,

aesthetic and phonetic impairments are the main problems of the tooth fractures. There are different reliable treatment alternatives to restore the fractured teeth such as veneer crowns, laminate veneers or composite resin restorations. Although these conventional treatment modalities are indicated for fractured teeth, they are time-consuming, high priced and not conservative. Another excellent option for managing coronal tooth fractures is the reattachment technique when the fragments are available. If the fragments are recovered by the patient and brought to the dental office within reasonable time, they may be reattached to the remaining tooth structure.
Case report: This article presents a case of a 15-year-old male patient with fractured left maxillary lateral incisor. The reattachment treatment option was selected after confirming that the fragment was in good condition and that it fit reasonably well on the fractured tooth. The fragment reattachment was performed using dual-cured composite resin cement (Variolink II, Ivoclar Vivadent, Schaan, Liechtenstein) and the treatment outcomes of 8-year follow-up were presented. After 8 years, the tooth remained clinically acceptable and exhibited good esthetics, good periodontal health and normal function. The clinical and radiographic findings presented no color change, no mobility and no periradicular pathosis and the tooth had a healthy periodontium with only minimal gingival recession. The results are satisfactory both for the patient and the clinician.
Conclusions: The technique described in this case report for reattachment of the fractured fragments is simple, while restoring providing long-lasting esthetics and improved function with a very conservative approach.

Keywords: crown fracture, tooth fragment, reattachment

27. DEVELOPMENT OF NATURAL LOOKING SMILE WITH CROWN LENGTHENING

Ersan Celik, Emre Tokar, Omer Ertug
Turkey

Introduction: Successful delivery of indirect restoration is predicated upon a concise understanding of the patient's existing facial architecture, his or her restorative needs and desires, and thorough communication with the laboratory. When restoring patients with dentofacial asymmetries, care must be taken to carefully determine where to create proper angulation and integration in order to develop a natural looking result.
Case report: A 33 year old female patient presented following a history of having significant dentistry previously performed. Maxillary central incisors had porcelain fused to metal restorations. These restorations were opaque and unnatural in shape. Gingival line asymmetry was observed at the maxillary anterior region. The patient desired improved symmetry within her teeth and smile. However, patient wanted to be involved in the treatment decisions and she desired to limit treatment to the maxillary central incisors. In order to fix to the gingival height discrepancies, crown lengthening was planned for maxillary left central incisor. Impression was taken for a waxup and provisional crown restorations were made for maxillary central incisors by using the waxup's silicone index. 14 days after the crown lengthening procedure, healing was evaluated and crowns were restored with composite resin before the preparation. When the provisionals had been accepted for aesthetics, function, phonetics, and cleansability, it was time to finalize the case. Turkom-Cera all ceramic restoration was used for making the crown restorations.
Conclusions: In the case, the patient presented with significant dental asymmetries and unnatural shaped crown restorations. She had a goal to create a symmetrical and natural looking smile. Intraoral conditions and aesthetic requirements were limited to succesful application of all-ceramic materials by clinicians. However, aesthetic improvement could be provided the use of collaborative treatment planning method for dento-facial asymmetries.

Keywords: Crown Lengthening, all-ceramics

28. THE EFFECT OF REPEATED X-RAYS ON THE STRENGTH OF FIBER POSTS

Fehmi Gonuldas, Dogan Derya Oztas, Deniz Gursoy
Turkey

Objectives: Fiber-reinforced posts are now available and may overcome the disadvantages (such as root fracture) of using metal posts.Fiber reinforced posts have been fabricated with a high tensile strength and an elastic modulus similar to that of dentine, which is less likely to lead to root fracture. If a fracture was occured, which was not in the root, then a new restoration may be a treatment option as opposed to extraction. During the treatment procedures and controls, it is wondered that the repeated x-ray expose dose effected the flexure strength of fiber posts. The aim of this present study was to determine repeated x-rays depend on rising radiation difference of flexural strength of fiber reinforced root canal posts.
Materials and methods: The fiber reinforced root canal posts were in four experimental groups for the study. The thickness of the specimens were 1.0 mm, 1.2 mm, 1.4 mm and 1.6 mm. Each groups were 7 specimens. The each group was included four subgroups. The fiber reinforced root canal posts, aluminum step wedge (each step 1 mm) and 1 mm cross-section molar tooth were placed on occlusal film (phosfor plate) for each groups for exposing process. Radiografic exposure was performed using X-ray machine. There were 4 groups, first group was control group, second group 0.4 sec., third group 4 sec. and fourth group 8 sec. Radiografic exposure was performed using X-ray machine except control group, at 70 kVp and 8 mA. The focal spot to object of distance was 40 cm. And then the three-point bending test according to the ISO 10477 standard (crosshead speed 0.5 mm/min, cross-sectional diameter of loading tip 2 mm) was used to measure the flexural strength specimens with Lloyd Universal Test Machine. After that measurements, values obtained were saved.
Results: The results are analyzed statistically

Keywords: x-ray, flexural strength, fiber posts

29. FIBER-REINFORCED FIXED PARTIAL DENTURE: A CLINICAL REPORT

Fehmi Gonuldas, Emre Tokar, Ruzin Gonuldas, Ersan Celik
Turkey

Introduction: Resin bonded bridges have become established as a treatment option for replacing missing teeth. Following advances in fiber-reinforcement technology, fiber-reinforced restorations now represents a lower-cost alternative to traditional metal-ceramic for the construction of resin-bonded prostheses. This clinical report illustrates the use of fiber-reinforced fixed partial denture.

Case report: A 23 years old male presented with lack of tooth from mandibular anterior region to Ankara University Faculty of Dentistry. Whole clinical and radiographic examination wasn't shown that any tooth loss at mandibular arch. However, a diastema that same mesio-distal dimension as a mandibular central incisor was found between the mandibular central incisor teeth. The case was consulted to Ankara University Faculty of Dentistry, Department of Orthodontics and was declared Angle Class I at canine and molar relation. An orthodontic treatment was offered to patient, but he didn't consent this treatment. Also, he wanted a quick solution for anesthetic condition of his mandibular anterior region. Then, several treatment options were explained to patient for the diastema. These treatment options were endo-osseous dental implant, conventional fixed partial denture and bonded fixed partial denture (adhesive bridge). Adhesive bridge treatment modality was chosen on account of conservativeness. Not only any mechanical reduction wasn't made, but also chemical erosion was made to adjacent teeth. An artificial tooth was chosen that same dimesion of the diastema. A fiber mesh was used for stability and reinforcement. The fiber mesh bonded lingual surface of the adjacent teeth and artificial tooth. The adhesive bridge has been in place for 6 months without complications.

Conclusions: This clinical report represent a lower-cost fixed option compared with traditional metal-ceramic resin-retained prostheses. Using of the adhesive bridges may be particularly indicated to replace missing teeth and maintain space at some cases.However, evidence-based guidelines for clinical indications, prosthesis design, and tooth preparation are required along with information regarding longevity.

Keywords: adhesive bridges, fiber-reinforced restorations

30. PATIENTS PSYCHOLOGICAL ASPECTS DURING PROSTHETIC TREATMENT

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Greece

Introduction: The problem of prosthetic rehabilitation is complex and the specificity is similar to that of fingerprints. It becomes even more complex when factors involved are general health, mental health, social factors and professional ones. Nowadays, the philosophy of prosthetic rehabilitation is based on an overall examination of problems in a holistic approach. Applying the above philosophy to restore balance and harmony of the stomatognathic system, the dentist is called, in addition, to the replacement of missing teeth, to help, protect and conserve natural teeth and maintaining oral health in general.

Materials and methods: The concept of «orality» with a particular focus on adult functions of the mouth is disscussed. The term «stomatikotita» is the organic unity, spiritual and emotional experiences of a young child and its expression in adulthood.

The oral cavity is**:**
1) Early Field Experience
2) Field socialization
3) Field perceptual capacity
4) Field Memory

«Adults» functions of the mouth, with particular attention to the sense of individual identity are**:**
1) The breakdown of the sense of «integrity» through the emotions generated by the loss of natural dentition
2) The role of oral articulation in speech

The above status is a cause of stress in many cases. Stress refers to requirements and events perceived as a threat of physical or mental well-being of the individual

Causes of stress**:**
1) Traumatic events
2) Uncontrollable events
3) Events at the limit of our capabilities
4) The effect of internal conflicts

In organic level, body's response to the stress consists of three phases**:**
1) Alarm
2) Resistance
3) Burnout

Results and conclusions: All patients with dental anxiety or phobic behaviour define the principle of their fear in an earlier phase of their lives connected with some traumatic dental visit. Especially in patients with dental phobia, fear is pervasive and it is associated with threats and risks completely incompatible with this dental context.

The phobic patient is unable to explain these reactions, and logical treatment cannot be effective. Dynamic relationship between dentist and patient is disscussed and are presented models of this relationship. Also, the doctor- patient relationship as interacting personalities is specified. Ways to conduct protection and care of the patient are suggested. By this way, it is created a personal history of the patient, through physician- patient communication, and conditions for a meaningful dialogue are defined. Finally the plot of nonverbal communication is defined.

Keywords: prosthodontics, psychological, aspect

31. EFFECTS OF STATIC MAGNETIC FIELD ON

GINGIVAL FIBROBLASTS' MITOTIC ACTIVITY

Filiz Yagci, Bülent Kesim, Hilal Akalin
Turkey

Introduction: Rare earth magnets have various applications for fixation of dental prosthesis. Tooth or implant supported overdentures are the most common areas of usage of dental magnetic attachments. However all magnets have magnetic fields around them and in the clinical situation gingival tissues are exposed to magnetic field. Magnetic fields have experimentally been shown to be able to provoke biological responses. Mitotic index is an important parameter to determine the rate of cytotoxicity. The aim of this study is to investigate effects of static magnetic field (SMF) produced by magnets used in dental prostheses, on human gingival tissue fibroblasts' mitotic activity in vitro.
Materials and methods: For this investigation Dyna dental magnetic attachments which have 500 gr brake-away force were used. Magnets were embedded into cold curing acrylic resin for two different configuration including single and double magnets. After informed consent had been obtained from all subjects, gingival biopsies were taken from 14 individuals and cultured in SMF which is produced by two different magnet configurations. Each gingival biopsy divided into two pieces and cultured as experiment and control flasks. Thereby totally 28 gingival fibroblast cultures were conducted. After cultures had been terminated, mitotic index analysis was performed. The data was analyzed at p=0,05 significance level statistically by student t and paired t test.
Results: As a result of our statistically evaluations, in terms of mitotic index rates, among the two experimental groups (Dyna-1 and 2) the difference hadn't been found statistically significant (p= 0,889). Intra-group comparisons (between experiment and control groups) of mitotic index rates didn't reveal any statistically significant difference, too (For Dyna-1 p=0,62; for Dyna-2 p=0,196).
Conclusions: According to these results, it can be said that magnetic field which had been applied in this study, didn't effect gingival fibroblasts' mitotic activity.

Keywords: Dental magnet, gingival fibroblast, static magnetic field, mitotic index

32. MANDIBULAR IMPLANT-SUPPORTED AND MAXILLARY TOOTH-SUPPORTED FULL-ARCH FIXED RESTORATIONS: A CASE REPORT

Gizem Kose, Zeynep Irkec, Sila Sahin
Turkey

Introduction: In recent years, implant-supported fixed restorations developed by improved prosthodontic techniques are preferred in the case of edentulous jaws instead of removable dentures because of some retention and stability problems. By this way possible functional disorders are prevented. The purpose of this case report was to provide good esthetical appearance and function and maintain the vertical dimension of occlusion by implant-supported mandibular fixed restoration opposed to maxillary tooth-supported full-arch fixed restoration.
Case report: A sixty two year old female patient consulted to Ankara University Faculty of Dentistry, with a complaint of looseness of her lower conventional removable dentures. We offered implant-supported fixed restorations to the patient for the final prosthetic design after explaining the procedure. Six endosseous implants were placed in the areas of mandibular left and right canine, first premolars and second molars. Four months later, after radiographic and clinical investigations we concluded that implants are osseointegrated successfully. Before the restorative treatment, the occlusal vertical dimension was recorded by her old prosthesis and the same vertical dimension was taken essential in the new treatment planning. Implant-supported fixed-restorations were designed and fabricated for three pieces while maxillary fixed-restorations designed as one piece because of the location of supporting teeth.
Conclusions: While the lower implant-supported fixed restoration providing the patient comfort by preventing the retention and stability problems, proper esthetic appearance was maintained by opposing full-arch fixed restoration. In addition, by adjusting the vertical dimension same as the previous, an optimum profile and comfort of the patient were also obtained.

Keywords: implant-supported restorations, full-arch fixed restorations

33. COMPARISON OF CHEWING CYCLES BETWEEN DENTATE AND DENTURES-WEARING SUBJECTS

Ozlem Ozdemir, Cavidan Akoren
Turkey

Introduction: Mastication is one of the main functions of the stomatognathic system. Chewing consists of rhythmic jaw opening and closing muscle activity regulated by a central pattern generator. The loss of natural teeth leads to bone resorption, TMD and muscular hypotonicity which may affects structures involved in mastication. Many studies have mentioned that the mastication ability decreased with complete denture wearers. The aim of this study was to compare duration of chewing cycle between dentate subjects and complete denture-wearers.
Materials and methods: This study was carried out on 14 individuals, 7 patients with complete denture-wearers and 7 dentate subjects. In the dentate subjects, the selection criteria was the presence of all permanent teeth and having no malocclusion, no history or clinical symptoms of TMD. All complete denture-wearers had worn a complete denture for more than 5 years. Mandibular movements were recorded using an jaw-tracking system (EGN, BioPAK, Bio Research, Inc. Milwaukee, WI) during chewing gum both at right and left side. Avarage durations of chewing cycle were statistically evaluated by using Student's t Test, Paired t Test and Bonferroni adjustment in this study ($p<0.025$).

Results: Complete denture-wearers have significantly longer duration of chewing cycle than dentate subjects both right (p=0,012) and left side (p<0,001). Statistical difference was not found between right and left side both dentate subjects (p=0,605) and complete denture-wearers (p=0,504).
Conclusion Limited masticatory function is one of the problems of patients with complete denture. Long-term complete denture wearers can present worn denture teeth, alteration of anatomical occlusal form, reduced in cusp heights and incorrect positioning of the jaw. In the limitations of this study, the reason for the prolonged duration of chewing cycle in complete denture-wearers may be the long-term usage of complete dentures.

Keywords: complete dentures, chewing

34. FACTORS ASSOCIATED WITH TASTE DISSATISFACTION IN THE ELDERLY WITH COMPLETE DENTURES

Rana Nalcaci, Ilgi Baran, Ücler Kisa
Turkey

Objective: The purpose of this study was to investigate taste sensation in the elderly, and to determine relationships between subjective dissatisfaction with taste ability and factors such as age, gender and oral status among independently living elderly individuals.
Materials and methods: The study included a total of 105 complete denture wearers (56 male and 49 female) ranging in age from 50 to 78 that were living in Kirikkale, Middle Anatolia, Turkey. A self-administered structured questionnaire was given to the participants. Respondents underwent investigation of dental status and gustatory testing. Tastants used in this study were presented not as single stimuli but as a taste mixture (sucrose and tartaric acid) Analysis included frequency, cross tabulations, ANOVA and chi square test. Significance was set at the 5% level.
Results: Age, smoking, presence of medical conditions and use of medications were not found to be significantly correlated with taste discrimination (p>0.05). However, female gender (p<0.001), educational level (p<0.05), oral dryness (p<0.05), burning mouth (p<0.05), accumulation of bacterial plaque on the tongue (p<0.05), wearing dentures covering the entire hard palate (p<0.01) and dentures worn overnight (p<0.01) were significantly correlated with dissatisfaction with taste ability.
Conclusions: These results revealed that accumulation of bacterial plaque on the tongue, oral dryness, burning mouth, wearing dentures overnight and lower educational levels were significantly related to dissatisfaction with taste ability in this study. Taste discrimination levels were significantly impaired after maintaining tongue care and removal of the dentures overnight.

Keywords: Taste discrimination, Removable complete dentures, Tongue coating, elderly

35. PROSTHODONTIC REHABILITATION OF PATIENT WITH CLEFT LIP/PALATE: A CASE REPORT

Süleyman Agüloglu, Sedat Güven, Ahmet Günay, Cafer Sahbaz
Turkey

The oral rehabilitation of cleft lip and palate (CLP) patients is challenging; and many of these patients are suffering because they received insufficient dental treatment. Several techniques, including surgeries, alveolar bone grafts, orthodontic appliances and advanced prosthodontic rehabilitation, have been proposed for the oral rehabilitation of CLP patients. However, in patients where surgery is contraindicated or has been unsuccessful, an alternative treatment is required. Overdentures are a simple, conservative and reversible non-surgical alternative for children with cleft lip and palate.
Case report: A 26-year-old female patient having cleft lip and palate reported to the Department of Prosthodontics of the dentistry faculty of the university of Dicle with complaints of esthetics because of missing premaxilla and maxillary incisors.First, anterior missing tissue treated peridontally and then because of inserting copings and fixing patient's anterior occlusion, root treatment was applied to anterior 4 teeth. After all that procedure, maxillary overdenture was applied that is supported by both teeth and soft tissue. Additional retention and stability have been obtained by a swing-lock attachment mechanism.
DISCUSSION**:** The dentist's role in the care of a person with cleft lip and palate involves his delivery of the examination, restorative and preventive procedures. At this case,the patient's tolerance was increased with the new overdenture.

Keywords: cleft lip, prosthesis

36. EFFECTS OF PHYSICAL VAPOUR DEPOSITION ON C. ALBICANS ADHESION

Yursen Rana Kuzu, Bulent Kesim, Mustafa Zortuk, Halil Ibrahim Kilinc
Turkey

Introduction: Candida albicans is the most prevalent fungus in the oral cavity, and its occurrence is strongly associated with denture-related stomatitis. Changing the biomaterials surface property effects the adhesion of C. albicans. Coating the medical devices with thin films has been gaining importance from last decade. Physical vapour deposition (PVD) is a vaporisation coating technique, involving transfer of material on an atomic level. The aim of this in vitro study was to evaluate the effect of thin film coatings on C. albicans retention, which were applied on acrylic resin via physical vapor deposition.
Materials and methods: The specimens (n = 60) were fabricated from heat cured acrylic resin denture base

material. The polishing procedure was established on all specimens. 20 of the specimens were left as a control group, 20 were coated with titanium (Ti) and 20 with titanium nitride (TiN) films by magnetron sputtering system the method of PVD. The surface roughness of all specimens was measured with a profilometer. The sterilized specimens were placed in Sabouraud broth contaminated with C. albicans. The adhered cells were examined with a scanning electron microscope (×1500 magnification). The number of yeast cells was counted by using 10 SEM fields from each test specimen. Data were analysed with one way analysis of variance by using SigmaStad. Multiple comparisons were made with Holm-Sidak test.
Results: There were significant differences between surface roughness of coated groups and control group ($p<0.001$). However there was not statistically difference between Ti and TiN coated groups ($p>0.05$). On the other hand adherence of C.albicans statistically difference was found among all coated and control groups ($p<0.001$).
Conclusions: The results demonstrated that Ti and TiN coated groups showed increasing roughness value and the adherence of C. albicans to denture base resins.

Keywords: C. Albicans, Acrylic resin, Surface roughness, Physical vapour deposition

37. MAXILLARY OVERDENTURE OPPOSING TO THE MANDIBULAR FULL-MOUTH RESTORATION: A CASE REPORT

Zeynep Irkec, Gizem Kose
Turkey

Introduction: Several difficulties are experienced in terms of esthetics, functioning and patient comfort in cases of upper single overdenture opposing lower full-mouth fixed restoration. Although the esthetics and occlusal plane could be more precisely adjustable in using the
full-mouth metal fused ceramic restoration on the opposite arch, a more careful treatment approach should be considered due to more intensive occlusal forces reaching to the single denture. The purpose of this case study is to provide the proper occlusal rehabilitation, fulfilling the esthetic and functional demands, by a combined treatment of several methods.
Case report: A fifty eight year old female patient applied to the faculty of dentistry, Ankara University, suffering from progressive gingival regression, elongation of teeth due to the opposite teeth loss, and vertical dimension reduction. It was observed that elongated teeth contacted opposite alveolar ridge in occlusion. To prevent bone resorption and to prepare a proper occlusal plane, endodontic treatment was applied in priority to the five existing upper teeth, followed by proper contouring of the teeth, filling their pulp chambers by amalgam restoration, thus providing optimum conditions for the maxillary overdenture. In order to improve the retention and stability of the single denture, artificial posterior teeth in anatomic form were set to obtain bilateral balance. Metal fused ceramic full-mouth restorations were applied to the lower arch, and the desired vertical dimension, occlusal plane and esthetic appearance were obtained.
Conclusions: In this case, the observations immediately after the treatment and at three month follow-up appointment revealed that retention, stability and esthetics of the maxillary overdenture were satisfactory, and the proper occlusal plane and vertical dimension were gained by both upper tooth-supported overdenture and lower fixed restoration. Radiographic data were also favourable.

Keywords: tooth-supported overdenture, implant-supported full-mouth restoration

38. EVALUATION OF COLOR STABILITY OF CEROMERS AT DIFFERENT SOLUTIONS

Zeynep Yesil Duymus, Nurdan Polat Sagsoz, Omer Sagsoz, Funda Bayindir
Turkey

Introduction: Restorative composites include quartz and glass particles in the matrix resin and they are used as veneer material in single tooth restorations or prosthetic restorations. These new composites divided into two main groups according to materials in their structure**:** FRC (Fiber reinforced composite) and CEROMER. Ceromer materials give esthetic properties to restorations. Using mechanism of humans visual spectrum, many color analyse systems have been developed. Some of these color systems are Munsell,CIE, Kubelka-Munk. The most valid of these preapared by Commission Internationale de L'E cloirage (CIE).In the current study, CIE color analyse system was used. The aim of our study was to evaluate color stability and coloration properties at different solutions of ceromer material.
Materials and methods: In our study 5 mm diameter and 4 mm high ceromer cylindrical specimens were obtained. The samples were divided into 5 groups. 5 samples for each group were randomly selected. Color values of the prepared samples were recorded immediately. Then samples of each group were separately immersed in various solution (Solution 1**:** Saliva; 990 ml, Solution 2**:** Saliva; 660 ml + tea;330ml, Solution 3**:** Saliva; 660 ml + coffee; 330 ml, Solution 4**:** Saliva; 660 ml + Cola;330 ml, Solution 5**:** Saliva; 660 ml+ Fruit Juice; 330 ml Samples were immersed in solution 24 hours, 7 days and 15 days. Color values were measured and recorded.
Results: The results obtained were evaluated statistically. It was observed that color stability of ceromer materials used in this study had been affected various drinks.
Conclusions: Statistically significant differences between the groups were found.

Keywords: ceromer, color stability, different solutions

39. METHOD FOR ELABORATION OF TOTAL DENTURES WITH COMPUTER ARRANGING OF ANTERIOR TEETH

Janina Pavlova, Todor Uzunov, Dimitar Filchev, Andon Filchev
Bulgaria

Introduction: The aim of this research is to approbate the method for elaboration of total dentures with computer assisted choice and positioning of frontal teeth.
Materials and methods: Total dentures has been made for 11 totally edentulous patients at the age from 54 to 78 years, from them – 4 men and 7 women. The total dentures have been elaborated except by the routine methods and the following ones as well**:**
- the use of the position of the point Gnathion, in the state of maximal smile, as an additional reference point in the determination of the vertical dimensions of the occlusion.
- an optimized method for registration of the projection of the allare points on the occlusal wax rims for determination of the canine position.
- preliminary visualization of the positioning of the anterior artificial teeth with the help of the computer program VirtualLab.
Results:
1. The optimized method for registration of the projection of the allare points on the occlusal wax rims provides better precision in the determination of the canine position.
2. The use of the position of the point Gnathion, in the state of maximal smile, facilitates the determination of the vertical dimensions of the occlusion.
3. The use of the created computer program facilitates the dentist in the process of determination of the level of the occlusal plane in the frontal area.
4. The program improves the collaboration between the dentist and the patient at their mutual choice of the shape, size and the manner of positioning of the artificial teeth of total dentures.
Conclusions: In conclusion the approbated method can be used in the treatment of totally edentulous patients as a method for elaboration of total dentures with good esthetic effect in conformity with the requests of the patient.

Keywords: total dentures, esthetics, frontal teeth

40. APPLICATION OF LASER RADIATION AFTER TOOTH PREPARATION FOR COMPLETE CROWNS

Todor Uzunov, Tsonko Uzunov, Pepa Uzunova
Bulgaria

Introduction: Lasers penetrate widely in contemporary prosthetic dental medicine.
They can be applied to control the acute, traumatic inflammation after teeth preparation for complete crowns and to accelerate the healing process. The laser radiation with λ=980 nm has haemostatic effect.The laser radiation with λ=630 nm has anti-inflammatory, anesthetic and regeneration stimulating effect. These effects are manifested at their best at power density 100 mW/cm^2.
Materials and methods: After tooth preparation for complete crowns laser radiation had been applied on group of 20 patients by the following scheme. Immediately after the tooth preparation a scanning laser irradiation has been applied with λ=980 nm at 6 mm distance from the gingival edge without tissue contact. On the next day a three-day course of scanning laser irradiation has been applied on the same area with λ=630 nm at power density of 100 mW/cm2.
Results: In comparison with the control group of 20 patients who has not been treated with laser, the laser treated group showed more rapid control of the inflammatory process, pain relief, and regeneration stimulation in the area of the preparation.
Conclusions: From the research it has been established that the laser radiation applied by elaborated from us methods accelerates the regenerative processes in the gingival tissue. The laser treatment has anti-inflammatory and anesthetic effect in the postoperative period and shortens the time for the regeneration of the marginal gingiva. This gives us reason to recommend the application of laser radiation by the elaborated by us methods after tooth preparation for complete crown.

Keywords: laser radiation, tooth preparation

41. ANTERIOR MAXILLARY TOOTH LOSS IN A 12 -YEAR- OLD GIRL

Göknil Alkan Demetoglu
Turkey

Introduction: Missing maxillary incisors due to trauma is very common in growing indivudials. In this ages it is a controversy to plan a fixed denture or implant surgery. Loss of permanent maxillary incisors is usually treated by various forms of removable prosthetic appliances. A missing tooth leads to difficulty in speech, decreased masticatory efficiency, development of abnormal tongue habits and subsequent malocclusion and psychological problems if esthetics are compromised. The case of a 12-year-old girl is reported who lost her right permanent maxillary central incisor because of trauma.
Case report: This case report describes the treatment of a 12- year- old pubertal female patient with Class II division 2 malocclusion and %100 deep bite. The patient applied to our clinic after 1 month from the trauma. In that period of time, distance between right lateral and left central incisors had been reduced mesiodistally. Provisional denture was planned after impression had been made with alginate. Because of the patient's age it was impossible to plan fixed denture or implant treatment. Mandibular incisiors were in contact with maxiller palatal gingiva. In this condition it was impossible to plan a conventional partial removable denture. Acrylic removable clasp retained denture with labial connector was fabricated. Occlusion was controlled with articulation paper and primer contacts abraded.
Conclusions: The patient had no complaints after 6 months. There was no more reduction of space of right central incisor. Moreover her family was informed about future treatments which includes orthodontic treatment

and implant surgery that will be planned when she became an adult. They also advised on control appointments in 6 months of periods. This treatment can be an alternative option in a case of deep bite and anterior missing teeth.

Keywords: missing tooth, deep bite, removable denture

42. A MINIMALLY INVASIVE APPROACH TO RESTORE ESTHETICS

Zuhal Öncül, Ayse Mese
Turkey

Esthetic is one of the most important aims of the restorations used for the anterior area of the dental arches. Good esthetic results were obtained by using basic different materials and technique. This case report describes the prosthodontic management of a patient who dont like his-her smile.

Keywords: esthetic, anterior area

43. PRE-PROSTHETIC SHAPING OF THE ALVEOLAR PROCESS WITH IMPLEMENTATION OF ALLOPLASTIC MATERIALS

Ljuba Simjanovska, Evdokija Jankulovska, Sinisha Simjanovski, Vesna Jankulovska, Milena Velevska

In this paper, we would like to point out the need and the importance of the pre-prosthetic surgery in the planning of the future mobile denture. In the same time we would like to suggest a certain type of alloplastic material, which should be used in correction of the alveolar processes of the upper or lower jaw, before the creations of the mobile prosthetic aids. That material is NOVOCOR PLUS. Also, we would like to draw your attention to the importance of Collagene - membrane when applying the alloplastic material.

Materials and methods: We used random patients, who had indication for pre-prosthetic surgical formation of the alveolar process, after extraction the rest of the natural teeth. They were applied the alloplastic material – NOVOCOR PLUS, which has a great osteoinductive effect due to its chemical structure. The augmentation of the alveolar extension with the aid of NOVOCOR PLUS is done immediately after extraction of the rest of the natural teeth. Over the applied material, NOVOCOR COLLAGENE membrane is molded, as a protection of the evaporation of the material (loss) and the area itself is stitched. The stitches are removed 10 days later. The first RTG picture for a check up of the material integration can be done month and a half later, and the second check up 3-4 months later. During this period the area is saved from being under pressure.

Results: The results from the implantation of the false bone are based on RTG pictures, clinical picture and patients' anamnesis. According to the result, which can be seen from the RTG pictures and the clinical pictures, after 3 to 4 months from the application of the alloplastic material, the beginning of the creation of the mobile prosthetic construction can start.

Conclusions: The alloplastic material NOVOCOR PLUS has a positive effect on healing of the bone defects, after the undergone surgical treatment. As a material from natural origin – corals, it provides fast and efficient integration into the bone tissue.

44. A THREE YEAR RETROSPECTIVE AND CLINICAL FOLLOW UP STUDY OF ZIRCONIA CERAMIC COMPUTER-AIDED MACHINED (CAM) SINGLE CROWNS

Anca Jivanescu, Corina Marcauțeanu, Luciana Goguta, Diana Naiche, Dorin Bratu
Romania

Objective: The increasing aesthetic awareness of patients has led to the development of new ceramic systems that challenge traditional metal-ceramic restorations. The purpose of this study was to evaluate porcelain fused to zirconia CAM single crowns after 3 years in function.

Materials and methods: A total of 28 porcelain fused to zirconia crowns were fabricated for 17 patients. Most crowns (89,28%) were placed on incisors and canines. The zirconia copings were milled with the Zirkograph 025 ECO with 5th axis (Zirkonzahn DCS, Germany) with an even thickness of 0.5 mm, and ceramic veneering material was added incrementally. The crowns were cemented using resin cement. The patients were recalled at 12, 24, and 36 months after bonding to examine the presence of any complications. The patient records were scrutinized for data on the restorations and the supporting teeth. The follow-up examinations consisted of clinical, radiographic, and clinical photographic examinations and the patient satisfaction was recorded.

Results: After 3 years of clinical service some minor complication were recorded for five crowns (17,85%%) and two abutment teeth (7,14%). The main complications included chipping of the ceramic veneering material and debonding. No zirconia core fractured and no caries was observed on the abutment teeth. The CDA criteria for 28 crowns were rated favorable, and patient satisfaction with the zirconia crowns was in general high.

Conclusions: Within the limitation of this clinical study, the porcelain-veneered zirconia CAM crowns showed good clinical results, were well accepted by the patients, and only few complications were reported over the 3-year follow-up period. However, to evaluate the long-term success further studies are necessary.

Keywords: porcelain fused to zirconia crown, CAM technology; chipping, complications

45. A COMPARATIV ANALYSIS OF MANDIBULAR FLEXURE ON DENTATE VS. IMPLANTED SUBJECTS

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Checherită, Oana Ţănculescu
Romania

Introduction: The posterior opening of mandible arch is changing during mastication, deglutition and phonation due to activity of manducatory muscles. This deformation, which is producing around rotation axis of lateral teeth, has different consequences on conventional restorative therapy and may affect patients with a rigid connection of a full mandible implant-supported prosthesis. This study evaluated a possible change in mandible flexure value from natural dentate status to a full implanted mandible arch in 43 adult subjects.
Materials and methods: For mandibular flexure (MF) calculation, impressions of the mandibular occlusal surface were made with vinyl polysiloxane putty material in three reference position**:** rest (R), maximum opening (O), and maximum protrusion (P). The impressions were scanned, and the images were processed using Adobe Photoshop software. Reference points were selected on the occlusal surface of the contralateral first molars, and the linear intermolar distance was measured using Image Tool software. The mandibular flexure value was calculated by subtracting the intermolar distance during opening or protrusion from the intermolar distance during rest.
Results: Mean values of MF-O was 0.13 mm and MF-P was 0.17 mm for the dentate sample. For implanted cases mean value of MF-O was 0.09 mm and MF-P was 0.11 mm. **Conclusions:** These results suggest that MF is associated with the type of a full arch restoration, but further research are necessary to establish the clinical consequences and to provide an optimal protocol for prosthetic restauration.

46. SHEAR BOND STRENGTH OF VENEERING PORCELAIN TO CAST, MACHINED AND LASER-SINTERED TITANIUM

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Turkey

Introduction: The bond strength between titanium framework and veneering porcelain is low. Therefore much effort has been put into developing new alternative methods, such as laser-sintering. The aim of this study was to evaluate the shear bond strength (SBS) of cast, machined and laser-sintered titanium materials to different veneering porcelains.
Materials and methods: Sixty titanium specimens, 7 mm in diameter and 3 mm in height were prepared, which 20 specimens were cast (Tritan), 20 were machined (DC-Titan) and others laser-sintered (EOSINT). Two kinds of dental porcelain (Titankeramik, Triceram) were applied on cast, machined and laser-sintered titanium specimens (n=10). The veneering porcelain parts were 5 mm in diameter and 3 mm in height. SBS test was conducted and the fractured surface analysis was performed to determine the failure modes. The fractured surfaces were visually analyzed with a dental operation microscope to determine the failure modes. The failed surfaces were classified as cohesive fracture within the veneer, adhesive fracture between the titanium and the veneer, and combination of both. Two-way ANOVA, Student t and Post Hoc tests were used to analyze the data ($p<0.05$).
Results: The SBS values of laser-sintered titanium specimens were significantly higher than machined and cast titanium specimens ($p<0.01$). Triceram and Titankeramik veneering porcelains did not show any statistically significant difference both in laser-sintered and cast titanium specimens ($p>0.05$). All of the test groups exhibited adhesive or combined failures. The highest adhesive failures (40%) were seen in Titankeramik-machined titanium group. None of the test groups demonstrated cohesive failure within the veneer. Triceram-machined, Triceram-laser-sintered and Titankeramik-cast titanium groups showed the highest (90%) combined failures. The highest adhesive failures (40%) were seen in Titankeramik-machined titanium group.
Conclusions: The use of new laser-sintering technique to produce titanium in prosthodontics may improve the bond strength of porcelain.

Keywords: Titanium, Bond Strength, Laser-Sintering, Casting, Machining.

47. THE EFFECT OF FABRICATION TECHNIQUES ON THE MARGINAL FIT OF METAL SUBSTRUCTURES

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Turkey

Introduction: Marginal fit is a very important criteria for the long-term success of metal-ceramic restorations. The presence of marginal discrepancies in a restoration exposes the luting agent to the oral environment. The marginal opening allows more plaque accumulation can initiate gingival inflammatory reactions and may lead to deterioration in soft tissue with periodontal disease. And also it causes recurrent caries and bone loss. The aim of this in vitro study was to compare the marginal adaptation of different metal substructures fabricated with CAD/CAM and conventional casting techniques.
Materials and methods: A standardized preparation was made on a stainless steel die with the following dimensions**:** 5 mm vertical height, 90 degree, 1 mm shoulder with a total convergence taper of 16 degrees. Thirty six gypsum dies were duplicated from this die and randomly divided into 3 groups of 12 each. Metal substructures were fabricated using manufacturers' recommendations as follows; Cobalt-chromium alloy (casting technique), Cobalt-chromium alloy (CAD/CAM technique) and titanium (CAD/CAM technique). The crowns were examined on the master die without cementation. Measurements were made parallel to the gap between the external edge of the structure and the preparation limit. Digital images were taken at buccal, mesial, lingual and distal surfaces of each crown using a camera. The images of the gaps were examined using

digital image analysis software. One-way analysis of variance was used to evaluate the data (p=0.05).
Results: ANOVA revealed significant differences among fabrication techniques (p<0.05). Metal-substructures fabricated with CAD/CAM technique showed significantly lower marginal gap values than casting technique.
Conclusions: The marginal discrepancies found in this study were all within the clinically acceptable standard set at 120 µm.

Keywords: marginal fit, CAD/CAM

48. ALTERNATIVE TREATMENT FOR ORTHODONTICS: CASE REPORTS

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Turkey

Esthetic smile begin the patient central concern. Soft tissue and teeth harmony is very important for the ideal esthetics. Soft tissue arrangement provide new gingival level for esthetic smile. The use of metal free ceramics are almost routine for patients with alterations in the shape and color of their teeth indications that are modified and broadened as dentists acquire more confidence in the technique and as the ceramics improve in their esthetic and resistence properties.
In these case reports two patient were included; one patient is 35-year-old female. Because of tongue pressure open mouth sendrome were occured. Long treatment plan and esthetic problem for brackets she refused the orthodontic treatment also wanted esthetic smile. Alternative treatment for that patient, gingival recession and then bleaching. After that three laminate prepartions for the upper jaw and also composite laminate were made for the lower jaw. New occlusion were perapered according to the esthetic smile.
The other patient is 25-year-old male. Because of long term treatment period patient wanted an alternative treatment. Lateral incisors were palatinal positioned; for the prosthetitic treatment lateral incisors were extracted and gingival recession were made. Two metal free bridges were planned to central incisors to the canine for both side. Esthetic result is acceptable for the patient.
The esthetic success of a dental treatment depends on the correct diagnosis, treatment plan and clinical and laboratory procedures. This clinical reports describes a diagnostically based protocol for conservative preparations on anterior teeth for adhesively retained composite and porcelain restorations. The diagnostic additive wax-up, periodontal esthetic conservative preparations for ceramic laminate veneers and metal free ceramics, direct restorations with composite resin used for the esthetic rehabilitation Laminate veneers and metal free ceramics are used to solve esthetic and functional problems in the anterior region for these two cases.

Keywords: anterior esthetics, case report

49. FINITE ELEMENT ANALYSES OF BIOMECHANICAL BEHAVIOR OF DIFFERENT INLAY LUTING CEMENTS

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Romania

Introduction: Clinical long-term success of dental inlays is determined not only on the properties of the inlay materials and luting cements but also the mechanical and chemical compatibility between them.
Aim: The study aims to compare biomechanical behavior of composite and ceramic inlays, dental structures and luting cements (zinc polycarboxylate, glass-ionomer, and resin luting cements).
Materials and methods: An inferior premolar with a class I inlay was modeled in RhinoCeros Nurbs modeling for Windows. The analises were conducted in COSMOS DesignSTAR and AnsysWorkbench.
Results and discutions: The results of the study are consisted with the the literature reports regarding the correlations between Young Modulus (Elastic Modulus) of luting cements and dental tissues. The hard cements are replaced by those with dental similar features in order to create a bio-functional unit.
Conclusions: Inlay restorations rely on current and constantly improving adhesive bonding techniques. The best results were obtained for Panavia resin luting cement.
The mechanical and chemical performances should be taken into consideration when making decisions on proper restorative material selection.

Keywords: finit element analyses, inlay, luting cement

Removable Prosthodontics

1. ANTERO-POSTERIOR DIMENSION (SIZE) ANALYSIS OF TOTAL MAXILLARY EDENTULOUS PROSTHETIC FIELD

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Romania

Introduction: Prosthetic fields are often the area that highlights the qualities of dentures, due to mismatch occurred in (because the) soft tissues structure (the support area and suction zone).
Materials and methods: The analysis of the anterior-posterior total edentulous prosthetic field was made on two groups (types) of fields (functional models). The two groups were from different patients as socio-economic status, so the first group (181 fields) was represented by fields from patients with improved socio-economic situation, with a dental education. The second group (267 fields) was represented by fields of patients with particularly poor material conditions and treatments

carried out incorrectly.
A caliper was used for analysis, as measured distance between the imter-biting papilla and mid of palate fovee after a design traced on the functional model. Analysis showed that in first lot: in 116 cases was 4 cm, 3.5 cm in 42 cases and in 23 cases of 4.5 cm. And analysis of group 2 showed that 179 cases was 4 cm, 3.5 cm in 37 cases and in 51 cases of 4.5 cm.
Results: In both groups the statistical analysis of anterior-posterior dimension of the palatal vault was performed, studying its distribution curve. Graphs results showed a normal distribution, Gaussian, because the size of the anterior-posterior palatal vault is the only parameter of the field that does not change the prosthetic jaw from edentulous, maintaining normal morphology.
Conclusion: Regardless of field size, characteristics, degree of atrophy, type of prosthetic treatment, analysis of the two groups showed that the anterior-posterior dimension of the palatal vault does not change with bone atrophy of the field, the two components (papilla and palate fovee) remain unchanged during evolution of prosthetic field under denture influence.

Keywords: anterior-posterior total edentulous prosthetic field, distance between the imter-biting papilla and mid of palate fovee

2. LIMITATION OF MOUTH OPENING IN PATIENTS WEARING TOTAL OR PARTIAL DENTURES: INCREASING OF MOUTH WITH EXERCISE METHOD. TWO CASE REPORT

Cagatay Dayan, Hanefi Kurt, Ali Yabul, Necat Tuncer
Turkey

Limitation of mouth opening in patients wearing total or partial dentures: Increasing of mouth with exercise method. Two case report. Introduction: Limitation of mouth opening complaints may be the signs of many disorders. once the real reason of this limitation is diagnosed, an accurate treatment can be possible**.**limitation of mouth opening can be seen in patients wearing total or partial dentures and stands as a possible problem during the prothetic rehabilitation process. Therefore before starting the prothetic procedures, mouth opening amount of the patient should be raised.
Case report: This report presents two cases with limited mouth opening complaints applied for treatment in Istanbul University Faculty of Dentistry Department of Removable Prosthodontics. Hot compress to masticatory muscles and exercise with wooden tongue retractors (5 minutes) for 1 month are advised for this patients.the patient is told to open his mouth as much as he can and place the maximum number of tongue retractors between his teeth and upper alveol cret. 1-2 minutes later he adds one more retractor. This procedure continues till he puts the maximum number of retractors without feeling pain. after the patients carried out this exercise twice a day for one month, their mouth opening amounts were raised and the prothetic treatments were completed.
Conclusions: Two patients wearing maxiller total and mandibular Kennedy I partial dentures with the complaints of limiation of mouth opening applied for treatment in our clinic. the complaints of the patients were treated with exercise method and then the prothetic rehabilitations were completed.

Keywords: Limitation of mouth opening

3. CLINICAL EVALUATION OF OVERDENTURES SUPPORTED BY NATURAL ROOTS

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Turkey

Introduction: Restoration of the partially edentulous patient with complete dentures should be considered if this is the only alternative as a result of poor periodontal health, unfavorable location of the remaining teeth and economic limitations. In this situation, every effort should be made to retain some teeth in strategically good positions to serve as overdenture abutments. The aim of this study is to present clinical evaluation and treatment strategies of overdentures supported by natural roots with different case reports.
Material and methods: This prospective cohort study was composed of patients receiving overdenture therapy in prosthodontics clinic at University of Ankara, Faculty of Dentistry from 2005-2010. Totally 30 patients were treated with overdentures over 45 roots as an abutments. Overdenture abutments were endodontically treated. Before reducing the abutment teeth clinicians scaled and cleaned all teeth and tought patients oral hygiene regimes. All of the abutment roots reduced to a level of gingival magrin. In order to prevent coronal leakage root access opening restored and sealed with amalgam.
Results: Clinical and radiographic evaluations of abutment roots were evaluated every year periodically by means of reason for root lost utilising with periodontal disease, vertikal root fracture, periapical lesion and caries. Statistical analyses were performed using SAS software version 8 (SAS Institute Cary, NC). 5-year and 1-year success rates of root abutments were compared and clinical and radiographic results were presented. The success rate was % 98 and %82 for 1-year and 5-year results, respectively.
Conclusions: Root supported overdenture treatment may not be a definitive treatment modality. However, overdentures supported by natural roots might be succesful interim prosthesis before dentures transformed to implant supported overdentures.

Keywords: overdentures, root retantion

4. USING MAGNETS TO INCREASE RETENTION OF LOWER DENTURE: CASE REPORT

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Romania

Introduction: Oral diseases and the patient's history of dental treatments can compromise important jawbone characteristics. If possible, extractions should be avoided for all patients who already suffered extensive bone loss because of the reduced stability and retention of the future denture, especially the lower one. Although implants are a good option, healthy natural roots always surpass the value of an artificial root. There are attachments that can take advantage of healthy roots of teeth deteriorated above the gum line. Magnets can be successfully used to increase retention of partial and complete overdentures, alone or together with any type of retainers and they can be applied regardless of the path of insertion of the denture.
Case report: Patient A.S., female, 62 years-old, came to the dental office for a complete rehabilitation complaining of masticatory inefficiency and inesthetic appearance. Most remaining teeth were irretrievable. At the lower jaw, the only tooth excepted from extraction was the canine (3.3) because of its good implantation and stability. After the root canal treatment, this tooth was used for a cap-type magnetic appliance (Magfit, Aichi Steel Corporation, Japan) on the occlusal surface of the root cap. The wax pattern cast with the bonded keeper is the critical laboratory phase; it is necessary to have at least 0,3 mm thick wax for a proper casting. Two complete dentures were fabricated and the patient's esthetic appearance improved. The magnet's position is parallel with the occlusion plan in order to obtain better retention for the lower denture.
Conclusions: The technical simplicity, the usefulness for geriatric and handicapped patients, the increased control of jaw function trough the maintained periodontal ligament and the physiological action of magnetic forces in the tooth axis are arguments for the use of magnets.

Keywords: retention, magnet

5. STATISTICAL STUDY ON TOTAL EDENTULOUS PATIENTS WITH COMPLETE DENTURES

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Romania

Objectives: Total edentulous incidence analysis is based on the following parameters: gender, age, presence of general diseases, etiology, duration of use of complete denture, functional status of complete dentures, oral cavity hygiene condition and morphological aspects of the prosthetic field.
Studied material: From the total of 326 patients, we have selected 36 patients who were diagnosed with various forms of total edentulism, wether maxillary or mandibular. The patients came to the Prosthetic dentistry Clinic between 2004 and 2008, some of them requiring for the first time prosthetic treatment with complete dentures, others reconstruction of the old denture or denture replacement.
Material and method: Clinical investigation of studied patients was done according to clinical observation form, which included the following data: history, facial clinical examination, intraoral clinical examination, noninvasive laboratory investigations, diagnosis and prognosis of therapy with complete dentures.
Results: from the total of 36 edentulous patients, 83.4% had total unimaxillary edentulism, 38.8% belonged to 55-64 years age group, 52.7% were female patients, 80.5% were patients from rural areas, 27.7% were patients with cardio-vascular disease, 75% of patients had poor oral hygiene and also they used untidy complete dentures. 25% of patients had been using complete dentures for 7 - 8 years, 22.2% had been using them for 9-10 years and 2.7% over 10 years, 69.5% had incorrectly adjusted dentures.
Conclusion: Total number of edentulous patients has increased, especially in the countryside areas, but the prognosis is unfavorable because of the absence of periodic checkups and poor oral hygiene.

Keywords: total edentulism incidence, parameters study, oral hygiene, complete dentures

6. FULL MOUTH REHABILITATION FOR ELDERLY PATIENT

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Turkey

Introduction: With the growth in the geriatric population, which includes a high percentage of partially edentulous patients, the use of removable partially dentures in clinical treatment will continue to be predictable treatment option in clinical dentistry. Esthetics is often compromised in patients who wear removable partial dentures with metal clasps placed on anterior teeth. This clinical report describes the treatment of the elderly patient with zirconia based fixed partial denture and removable partial dentures retained with precision attachment. **Case report:** A 81 year old man referred to the Istanbul University Department of Prosthodontics with a complaint about his appearance and mastication function. Patient's esthetic expectations, medical situation were considered and radiographic - clinical examinations were completed. According to these findings final planning was to treat the patient with zirconia based fixed partial dentures and removable partial dentures retained with precision attachment. Zirconia (ZirkonZahn, Steger, Ahrntal, Italy) infrastructure was prepared copying the pattern resin model and the superstructure was also finished using porcelain (Vintage ZR Shofu Dental GmbH. Kyoto Japan). Mandibular and maxillary frameworks were cast from a cobalt-chromium alloy (Dentorium Products Co., Inc. New York USA) and evaluated intraorally. Artificial teeth (Vita Zahnfabrik h. Rauter GmbH & Co. KG. Bad Sackingen Germany) were selected and arranged for a trial denture arrangement and evaluated intraorally. Dentures were processed and finished. Fixed partially prosthesis were cemented teeth with a resin cement (BisCem Self-Adhesive Luting Cement BISCO, Inc. Schaumburg USA) according to the routine clinical protocol.
Conclusion: In this case report, a treatment alternative that can be used for elderly patients with esthetic

expectation has been introduced. Clinical procedure in the elderly patient is presented for a removable partial denture that improves esthetics and function through zirconia based fixed partially dentures and precision attachment.

Keywords: elderly patient, precision attachment, zirconia

7. PATIENT SATISFACTION WITH GLASS FIBER REINFORCEMENT IN REPAIRED COMPLETE DENTURES

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Turkey

Introduction: Polymethylmetacrylate (PMMA) has been widely used as a main component of denture base polymer for many years. However this material is sometimes fractured or cracked in clinical use. One of the factors that causes fracture is considered to be low resistance to impact, flexural or fatigue. In order to this fact, fibers incorporated in the denture PMMA to overcome this results. The purpose of this clinical study is to compare the long-term outcomes of patient satisfaction with glass fiber-reinforcement in repaired PMMA complete dentures**.**
Materials and methods: Thirty patients complaint complete denture fracture have been chosen among regular patient circulation from Istanbul University Dental Faculty, Prosthodonti Department. The patients have divided into two groups. Group 1 is composed of 18 patients and the partial fiber reinforcement (PFR) was incorporated into their denture at the time of repair. Group 2 is composed of 16 patients and their dentures were repaired with normal dental laboratory techniques, with the exception of the insertion of PFR. The PFR used in the present studt was made from continuous, unidirectional E-glass. The OHIP-14 (Oral Health Impact Profile) life quality measurement tools have been applied to all patients just after insertion of repaired dentures and 5 years later. The results were analyzed statistically by using SPSS 14.0 for windows evaluation version.
Results: The results showed that the survival of dentures for Group 1 is %67 whereas Group 2 is %60. Decrease of life quality for Group 1 is %70 even though Group 2 is %20. The significant difference among groups for OHIP-14 have been noted.
Conclusions: According to this study, it can be concluded that the use of E- glass PFR in the repair of complete denture show the clinical usefullness and increase patient satisfaction.

Keywords: fibers, patient satisfaction, denture

8. EVALUATE OF THE FRACTURE FORCE OF DENTURE BASE RESIN REPAIRED WITH DIFFERENT RESIN

Hasan Güngör, Zeynep Yesil Duymus, Murat Alkurt, Mustafa Gündogdu
Turkey

Purpose: The purpose of this study was to evaluate the fracture force of a heat-polymerized denture base resin repaired with autopolymerized resin (Group 1), autopolymerizing resin reinforced with fibers (Group 2), heat-cured resin (Group 3) or heat-cured resin reinforced with fiber. (Group 4), visible light-polymerizing resin (VLC) (Group 5)
Materials and methods: Heat-polymerizing acrylic resin was used to fabricate the specimens. The specimens (8 per group) were sectioned in half, reassembled with a 3-mm butt-joint gap, and repaired. A cavity was included when fibers were used. Three-point bending was used to test the repaired site, and data were analyzed with one-way ANOVA test (α ≤ 0.05)
Results: Fracture force, for the repaired groups heat-cured resin without reinforcement Group 3: (32.9 N) was significantly lower ($p < 0.05$) than the heat-polymerized denture base resin repaired with autopolymerized resin Group 1: (89.8 N). Repair with visible light-polymerizing resin (Group 1: 26.6N) resulted in significant reduction of mechanical properties ($p < 0.05$). Heat cured resin reinforcement with fibers restored (Group 4: 32.9 N) was significantly lower than autopolymerizing resin reinforcement with fiber restored (Group 2: 92.2 N) the original strength. Heat-cured resin and autopolymerizing resin reinforcement with fiber (Group 4: 32.9 N) and (Group 2: 92.2 N) were significantly higher ($p< 0.05$) than without fiber heat-cured resin and autopolymerizing resin (Group 1: 89.8 N) and (Group 3: 29.0 N). The strength of visible light-polymerizing resin (VLC) (Group 5: 26.6 N)is other groups.
Conclusion: The most effective repair method was the use of autopolymerized and heat-cured resin reinforced with fibers.

Keywords: denture base resin, repair, strength

9. LASER TREATMENT OF ORAL HYPERPLASIA CAUSED BY INAPPROPRIATE DENTURES

Evdokija Jankulovska, Ljuba Simjanovska, Sonja Petkova, Nadica Janeva, Vesna Jankulovska, Sinisha Simjanovski
Serbia

Introduction: In the contemporary pre-prosthetic surgery various surgical procedures are used, and it is possible to remove the hyperplasia of the surrounding soft tissue in the area of the denture's embedded bases, by which adequate conditions for making prosthetic aid are created. This aid will fulfill the both requirements: the aesthetical and the functional one. The aim of this study is to present the practical application of the LASER in the pre-prosthetic treatment of hyperplasia in the oral cavity caused by inappropriate edges of the denture's base, as well as its most common localization.
Materials and methods: Random patients were tested. Those patients had hyperplasia on the oral mucosa, and had been using partial or total denture bases for a longer

period of time. The removal of the hyperplasia was realized by a lightening amplified and stimulated emission of radiation (LASER). During these interventions Fotona Fidelis III Er:YAG laser was used. This laser has a wavelength of 2940nm.The projection of the laser's wave is a point, and the diameter of the same point is the value of the point itself. When using a laser, it is essential that the type of the oral tool or the fiber optical unit which are used, are in accordance to the parameters selected on the laser's display. The parameters of the laser's display are selected by the dentist him/herself.
Results: With a gratitude to its sterilizing and coagulated effect, the procedure on the soft tissue is by far easier and efficient to be carried out, than by the known conventional methods. The advantages of the usage of the laser are as follows: greater comfort and patient satisfaction, faster and more efficient procedures, greater precision and control, superior clinical results and fresh challenges and procedures. According to the World's statistics, 10 % of the patients who used mobile denture's base undergo a pre-prosthetic surgery removal of the oral hyperplasia.
Conclusions: The usage of a laser in oral surgical intervention is one of the newest, very appealing and sophisticated methods, which provide fast and pain free intervention.

Keywords: laser treatment, oral hyperpladia, dentures

General – Dental Medicine Confluences

1. THE INFLUENCE OF ANTIBIOTHERAPY ON MICROBIAL STEMS RELATED TO DENTAL DISEASES

Tirca Tiberiu, Anca Ungureanu, Mirela Manolescu
Romania

Aims: Explosion of data related to oral microbiology confirms the role of oral microorganisms in dental pathology. This aims to assess the sensibility to antibiotics for some microbial stems isolated from dental caries and periodontal disorders (periodontal abcess).
Materials and methods: A number of 40 aerobic and anaerobic Gram+ microbial stems were taken in study. The bacteriological diagnosis was performed accordingly to standard stages. The testing of sensibility to antibiotics was performed using Kirby-Baner method. The isolated bacterial species were Staphylococcus epidermidis (19 stems), Streptococcus α-hemolitic (7 stems) and Peptostreptococcus (14 stems).
Results: Staphylococcus epidermidis was sensitive in high percent to chinolones (Pefloxacin 64,42%, Ciprofloxacin 63,15%, Ofloxacin 57,89%) and in low percents to Peniciline and Tetracicline (15,78%) and Eritromicine (10,52%).The stems of α-hemolitic streptococ presented sensitivity of 100% to Peniciline, 57,14% to Clindamicine, and a resistence of 100% to Tetracicline, Ciprofloxacin and Norfloxacin. Peptostreptococcus was sensitive 100% to Peniciline, 14,28% to Gentamicine and 21,42% to Kanamicine.
Conclusions: The high percents of resistance to antibiotics impose a collaboration between dental practician with laboratory to establish an appropiate general and local therapy.

Keywords: microbial stems, antibiotherapy, dental diseases

2. RATES OF MOUTHGUARD USE AMONG ICE HOKEY ATHLETES DURING THE WORLD U18 CHAMPIONSHIP

Bilal Hologlu, Hasan Güngör, Zeynep Yesil Duymus, Suleyman Erim Erhan
Turkey

Introduction: Dental injuries are the most common type of orofacial injury sustained during participation in sports. The current public popularity of contact sports and the willingness of athletes to take high risks in sport have led to an increase in sport injuries and sporting accidents are one of the most common causes of facial injuries. Studies on large groups have shown that sports account for 31% of such trauma in adults and children. When the face and head are involved, this often results in tooth or mouth trauma.
The purpose of this study was to determine the attitudes of mouthguard users in the 2009 International Ice Hockey Federation (IIHF) World U18 Championship Division III Group B Turkey. The participants' appreciation of the use of protective devices, such as mouthguards, during sport activities was also evaluated.
Materials and methods: In this study, a 10-item questionnaire was distributed to 80 ice hockey athletes in the 2009 IIHF World U18 Championship.
Results: The Championship was composed of 4 national teams [Bulgaria (Bul), Ireland (Irl), Iceland (Isl) and Turkey (Tur)]. All the players were male and their average ages were Bul. 16.55, Irl. 16.2, Isl. 17.0, Tur. 17.3. The results of the questionnaires indicated that twenty-five percent of these sportsmen used mouthguards while participating in sports.
Conclusions: The use of mouthguards is rare in sports, because all ice hockey athletes wear helmets and face masks associated with their helmets. IIHF rules require that athletes, who are less than 18 years of age, should wear face masks during sport activities, but wearing mouthguards is not compulsory. Doctors and dentists need to recommend more intensive education of athletes concerning sports medicine and sports dentistry.

Keywords: mouthguards, sport dentistry

3. ANTISEPTIC ACTIVITY OF DISINFECTANT SOLUTIONS IN RELATION TO THEIR PHYSICOCHEMICAL PROPERTIES

Biljana Gjorgjeska, Cena Dimova
FYROM

Knowing antiseptic activity of chemical disinfectant substances has a great practical value in stomatological practice.
It is evidential that there is the need for defining standard technique for quantitative determination of bactericidal activity of chemical disinfectant substances, as well as the need for defining parameter for comparing various chemical disinfectants. Solution of phenol (5%) was considered as referent standard for evaluation of efficacy of disinfectant aqueous solutions. Suitability of phenol coefficient for evaluation of nonphenolic disinfectants is still opened question. On the other side the methods for evaluation of antiseptic activity of disinfectant aqueous solutions are microbiological.
The aim of this study is to develop a new empirical coefficient which is capable to express the various physicochemical properties of disinfectant solutions on bactericidal activity. The basic duty of this parameter (Disinfection Activity Coefficient of Solution - DACS) is to express capability for comparison and prediction of disinfectant activity. The DACS index, which is the sum of four terms (fluidity, surface tension, redox potential and osmolality), results in good correlation with the activity at different disinfectant aqueous solutions. The DACS index can be calculated using additive and statistical models. Statistical model is adequate for evaluation of different disinfectant solutions because of better expressing the bactericidal activity then additive model. For analyze of various dilutions of one disinfectant there is no significant difference between this two models. The usefulness of DACS is demonstrated for analyze of bactericidal activities on different disinfectant solutions containing boric acid, chlorhexidne, chlorhexidine with cetrimide, chloroxylenol, chlorophen, eosin, hydrogen peroxide, phenyl mercury borate, povidon-iodine, thiomersal, tosilchloramide and phenol. **Results:** for bactericidal activities obtained from microbiological tests on Staphylococcus aureus was compared with activities predicted with DACS. As the conclusion, it is considered good correlation between experimental and calculated values for bactericidal activity.

Keywords: disinfectant, bactericidal activity, antiseptic

4. FORENSIC ANALYSIS OF BITEMARK IN FOODSTUFF

Christos Stavrianos, Panagiotis Kafas, Irene Stavrianou, Theodoros Antonakis, Christos Papadopoulos
Greece

The aim of this study was to evaluate the accuracy of two methods for the bite mark analysis in foodstuff. For the purposes of this study ten suspects participated as possible perpetrators of a bite mark found in a fresh apple which was seized at a supposed crime scene. The sample was kept in a sealed bag and stored in a fridge. The following day we applied the technique of obtaining an impression of the bite mark in the apple using light body vinyl polysiloxane, which was injected without pressure from a central point to the bite mark periphery. A ring was constructed as barrier using a heavy body vinyl polysiloxane. The next stage was to pour model from the bite mark impression with the use of dental stone. Next step was to take dental impressions of the possible suspects using alginate impression material (protesil) and pour dental casts of the dentitions with dental stone. Two independent forensic dentists compared the pattern of the bite mark with the dental casts of the suspects using two different methods each time**:** the docking procedure (direct method) and the computer-assisted overlay production technique with Adobe Photoshop CS4 software (indirect method). The results of this study showed that the computer-based method for bite mark analysis was as accurate as the docking procedure in cases with bite marks in an apple and may be useful in a variety of substrates. Bites may on occasions be left in foodstuff or other objects found at the scene of a crime and it may be possible to math the teeth of a suspect to these marks or, enquiry importantly, to eliminate a suspect from an enquiry

Keywords: Forensic Dentistry

5. TEETH WHITENING BETWEEN IATROGENIC AND THERAPEUTICAL ACT – HISTOLOGICAL BASES

Rodica Bodea, Luminita Nica, Liliana Vasile, Rodica Jianu
Romania

Introduction: Teeth whitening is a relatively simple and conservative option and has been used for approximately 15 years, but there is few information about its side effects and long term safety. The aim of the study was to identify the lesional dynamics of the alterations in the pulpo-dentinal complex after successive bleaching.
Materials and methods: The study was made between 2005-2007, and we selected 60 cases, aged between 16 and 65. The teeth (incisors and premolars) were submitted to successive bleaching (2,3,4 or 5 times) with Viva Style R Paint On 6% and Belagel 12 %. The periods between one bleaching and another were 7 days, afterwards we removed the dental pulps and we extracted the premolars in orthodontic purposes. We used 6 witness pieces.
The extracted teeth were decalcified with an acid mixture, during 1 to 3 weeks, then inclusionated in paraffin, sectioned at 5-7µ, stained with usual methods and immunohistochemical - $LSAB_2$ technique for actin - straight muscle and vimentin, DAB visualization, 3 shlift teeth, stereomicroscopic processing at 2 premolars extracted after 3 successive bleaching.
Results: The lesions of the pulpo-dentinal complex undergo successive levels of severity, with the initial implication of the vascular dynamics at the peripheral subodontoblastic plexus, and continuing with the activation of fibroblasts, initiation of fibril genesis parallel

with the dilatation of the dentinal tubular net and dentinal matrix lysis at the concentration of 12 % of the bleaching substance and at 5 successive bleaching. The stereomicroscopic study reveals different degrees of edema and pulpal fibrosis.
Conclusions: The pulpo-dentinal alterations are progressive after successive bleaching with concentrations of 6 % and 12 %, implying the vascular-dynamics in an inflammatory reactive context with vascular thrombosis, variable degrees of fibrosis, lineal calcifications, depending on the individual reactivity of the patients.

6. THERMOVISUAL DIAGNOSTICS AND FOCAL INFECTION IN MAXILLO-FACIAL AREA

Raia Grozdanova, Maria Dencheva, Angelina Kisselova, Todor Uzunov
Bulgaria

Introduction: The role of the fields of interference as primary cause of many diseases and aggravating factor in the development of others defines them as a problem of great importance. In literature, about 80% of the fields of interference are in the maxillo-facial region, and 86% have odontogenic origin. The delay in their diagnosis can lead to many complications and irreversible pathological changes, so their active research should become an integral part of the complex diagnosis of the patient. The rapid development of technology in the recent years gave possibilty for application of noninvasive and highly specialized equipment in focal diagnostics.
Case report: The case report is about a male patient at the age of 57 years that complains of constant dull pain in the right upper jaw that irradiates to the ear. After extraction of upper right wisdom tooth and endodontic retreatment of 17 with ionoforesis, extraction of a broken endo-instrument and exact root filling the problem persisted. We used the most modern highly sensitive and precise equipment for thermal imaging diagnostics - Infrared Camera Therma CAM FLIR A310.The camera registers the infrared spectrum of radiation of the investigated object, and allows a thorough and highly specialized analysis of the data. We created a method of thermal imaging best suitable for surveys in the maxillofacial area concerning detection of focal infection that included specific sequence with a change of focus and digital photographs of the surveyed fields that we fused with the thermal images. The thermal survey revealed 2 fields of disturbance of periodontal origin that have been treated afterwards and the problem had been sold.
Conclusions: The method that our team has created is a step forward in modern, objective, noninvasive and reliable termodiagnostics of focal infection.

Keywords: Infrared camera, thermovision, focal infection

7. FORENSIC EVALUATION OF ENAMEL STRUCTURE

Panagiotis Kafas, Christos Stavrianos, Irene Stavrianou, Panagiotis Dagkalis, Christos Papadopoulos
Greece

Tooth enamel is the hardest and most highly mineralized substance of the body, and with dentin, cementum, and dental pulp is one of the four major tissues which make up the tooth in vertebrates. The unique microstructure of enamel resides fossilized tracks of its growth process. These tracks represent the incremental growth of enamel. Forensic Odontology is a vital and integral part of forensic science. Essential data could be derived by the study of the enamel structure and contribute in dental identification, age estimation procedures and archaeology, anthropology and forensic researches. Forensic Odontology plays a crucial role in personal identification of unidentified bodies in crime scene investigations and in mass disasters. Unique individual characteristics of the dentition could assist the identification procedure. The study of the enamel reveals information that allows the forensic odontologist to build up a picture of the deceased's habits and ethnicity. This method helps in synthesis of the dental profile of an individual. Information for the occupation, dietary habits, dental and some systematic diseases could be obtained by a careful examination of the enamel tissue. Erosions could be associated to many factors such as alcohol and substance abuse, working in industrial environment with acid use, consumption of carbonated drinks and disorders like anorexia nervosa. Stains may suggest smoking, tetracycline use or dental fluorosis. The latter could be an indication about the ethnic origin of an individual or at least where the childhood was spent. The notching of incisors enamel gives indication for occupation or habits. Further advances in image analysis and computer technology would enhance our knowledge and improve the accuracy of methods used in Forensic Odontology field.

Keywords: forensic dentistry

8. APPROACH TO BRUXISM IN A GENERAL IMPAIRMENT

Veronica Mercut, Monica Scrieciu, Mihaela Popescu, Mihaela Tuculina, Monica Craitoiu, Monica Searpe
Romania

In 2003, Kato proposed the following definition of bruxism**:** nocturnal bruxism is a parasomnia and parafunctional oral activity characterized by jaw tension (tonic activity) and / or an phase-jaw muscle activity, which is translated by repetitive teeth grinding.
Objective The objective of this work is to highlight the main potential general and local factors involved in triggering and maintaining bruxism. At this point, in the etiology of bruxism are taken into account general factors, psycho-social, psycho-neurological, behavioral and local factors.
Materials and methods: The study was conducted on a total of 365 patients aged between 19 and 25 years, from whom 72 patients with dental wear were selected. After

clinical examination and disease history writing, based on the minimum diagnostic criteria specified by the ICSD, we established whether patients selected presented nocturnal or diurnal bruxism or both forms. We highlighted the main factors possibly involved in bruxism. Of these, the first place is stress, consumption arousing, history of head trauma and drug consumption.
Results: and conclusions The study revealed that from the total of 72 patients, most presented diurnal bruxism (83%), followed by a form of nocturnal bruxism (14%). In a small number of patients have co-existed two types of bruxism (3%). Regarding the possible etiological factors involved, our study data were superimposed on data from literature.

Keywords: teeth wear, nocturnal bruxism, diurnal bruxism

9. BLEEDING RISKS IN DENTAL PROCEDURES

Rodica Ghiuru, Dragos Munteanu, Ana-Maria Grozdan, Florin Grozdan
Romania

The etiology of ethanol in the last century became one of the primary factors in the pathology of cardio - vascular (dilated cardiomyopathy, CMDE).
Dental procedures in these patients, bleeding may pose a risk of infectious endocarditics or bacteraemia with the appearance of cardiac decompensate may exacerbate the installation of rhythm disorders.
Objective: The study was the dental treatment bleeding complications in patients with CMDE.
Materials and methods: A group of 35 patients who presented with CMDE admission clinic before certain invasive oral procedures. In this group we studied the frequency of certain complications**:** endocarditic, heart failure and the occurrence of certain arrhythmias, and how they have influenced the evolution and prognosis.
Results: and discussion**:** The risk of infectious endocarditics was low, taking into consideration the importance of eradicating, outbreaks of infection. The occurrence of certain arrhythmias, such as arrhythmia, extrasystolia and auricular fibrillation phenomena have led to the exacerbation of heart failure.
Conclusions: A treatment in patients with oro-dental and CMDE it must be done under strict monitoring cardio-vascular, to prevent complications that may worsen the prognosis of this disease. We believe that remediation of outbreaks of infection before starting a dental specialist treatment is a crucial step in the prevention of infectious endocarditics.

Keywords: cardiomiopatie dilatativa, alcohol, endocarditics infectious

10. FACTORS RELATED THE ANXIETY OF ADULTS IN KIRIKKALE

Ilgi Baran, Hamiyet Akça, Ali Can Bulut,
Turkey

Introduction: Dentists are likely to face with dental fear and anxiety reactions in some of their patients during dental treatment. This can create stress in both dentists and patients. The purpose of this study was to evaluate the association between dental fear and gender, age and to give some advise to solve the dental fear problem.
Material and Method**:** A questionnaire applied on a total of 60 patients (34 women, 26 men). Patients' dental fear and anxiety were discovered via 5 questions. In addition to the questions age, gender, social economic class were recorded. MDAS scale was taken to be referance. Questions were about the anxiety about being in patient waiting room, injection, sitting on dental chair, waiting fort the dental intervention. According to the answers, a score (1 to 5) was given for each question, and total score was calculated. By using this score patients were classified from low anxiety level to highest anxiety level.
Results: The mean age of the study sample was 59,2 ±10,4. Repeated measurement were examined by using chi-square test. There were 19 patients in low anxiety level and non of the patients were determined in the highest anxiety level. Statistical analyses showed that MDAS score was significantly positively correlated with the tooth brush habit ($p<0,01$), regular dental check-ups ($p<0,01$) and education level ($p<0,01$).
The association between dental fear and gender and age were statictically different.
Conclusions: Dental anxiety can be main problem or handicap for defaulting on regular dental check-ups. An extra dental appointment should be given to the patients to explain the phase of treatment. As an initial dental intervention,dentists should choise noncomplex and painless treatment.

Keywords: Dentistry, anxiety, fear

11. DIAGNOSIS OF IMPACTED LOWER AND UPPER FUSED MOLARS WITH CONE BEAM COMPUTED TOMOGRAPHY (CBCT)

A. Evren Delilbasi, Kaan Orhan, A. Isil Orhan
Turkey

Introduction: Gemination, fusion, concrescence, double teeth and syndontia all suggest some kind of abnormality in which one tooth has combined with another or enlarge itself to the point of doubling. Fusion is the union of two developing dental germs resulting in a single large dental structure. It may consist of a germ of a normal tooth with a supernumerary one or with two normal dental germs. The aim of this presentation is to discuss two fusion cases between impacted second and third molars and between impacted third and a forth molars (distomolar) diagnosed through the cone beam computed tomography (CBCT).
Case Reports
A 18- year- old male and a 22-year-old female patients were referred to our clinic for third molar teeth in upper and lower jaws. Panoramic radiograph of the female patient showed supernumerary teeth with impacted teeth, whereas the male patient's radiographic

examination showed impacted second and third molars. Because of the limitation of panoramic technique and close proximity of each dental tissue as well as bone structures, it was not possible to reach a final diagnosis about fusion. Hence, CBCT which provides precise three-dimensional information was used to make diagnosis and also to help in the surgical planning. CBCT revealed clearly the fusion between the teeth and a close relation of their crowns.
Discussion**:** In these case reports we observed that the periapical and panoramic radiographs were not able to show details of the fusion which could only be determined through the use of CBCT. CBCT is being increasingly used for point-of-service head and neck and dentomaxillofacial imaging. This technique provides relatively high isotropic spatial resolution of osseous and hard dental structures with a reduced radiation dose compared with conventional CT scans.

Keywords: cone beam computed tomography, fusion, panoramic radiograph

12. INVESTIGATION OF EMOTIONAL DISTRESS AND SALIVARY CORTISOL IN YOUNG HEALTHY SUBJECTS IN PERIOD OF ACUTE STRESS

Alexandra Mihailescu, Alexandra Totan, Maria Greabu, Radu Radulescu, Daniela Miricescu
Romania

Prevalence of self- reported depression and anxiety in young individuals with various somatic diseases was less studied.
Objectives: To assess the relationship between emotional distress and cortisol levels in the period of acute stress; to establish if there are any correlations between the measured levels of perceived stress and the self-rating scales of anxiety and depression.
Materials and methods: 28 young healthy adults, medical students, were given questionnaires on stress, anxiety and depression. Salivary cortisol levels were assayed using special diagnostic cortisol kit for saliva from NovaTech, Germany. For stress assessment we have used the Perceived Stress Scale (PSS) and Zung self rating anxiety scale (ZSDS).
Results: 46.42 % of subjects showed higher perceived stress. 75 % of studied students obtained scores that suggested an anxiety linked pathology, with a higher frequency in females. A higher frequency of depression and perceived stress was observed in male students rather than female students. Our results showed that the values of salivary cortisol were significantly correlated with the PSS scores, in male subjects.
Conclusions: this preliminary data showed that young male adults, medical students, may show high levels of emotional distress, reflected by the salivary cortisol levels. It is recomanded that the medical faculty should focus on the importance of prevention and intervention of stress among first year students in order to prevent subsequent anxiety and depression onset.

Keywords: saliva, cortisol

13. SEVERE ORAL CANDIDIASIS IN A HIV INFECTED PATIENT – CASE REPORT

Andrei Vata, Liviu Jany Prisacariu, Carmen Manciuc, Cristina Nicolau, Gabriela Juganariu, Carmen Dorobat
Romania

Introduction: The fungus Candida albicans can be identified in the oral cavity of approximately 50% of healthy adults, but in the imunocompromised host can be the cause of a local or disseminated, sometimes lifethreatening, infection.
Case Report: We present the case of a 20 years old female patient with stage B2 HIV infection, who followed several antiretroviral therapies since 1996 and presents in our Center in August 2009 for fever, severe dysphagia, fetid drooling and white cheese–like raised patchy plaque, thickening the surface lingual epithelium and leaving an erythematous and bleeding base when rubbed off. She hasn't been eating for several days and was dehydrated. She also had generalized lymphadenopathy and a disseminated petechial rash. The laboratory data confirmed the advanced immunodepresion with 88 CD4 lymphocytes/mm3, revealed a high viral load – 105000 copies/ml, anemia and severe thrombocytopenia (1000/mm3). Candida albicans was isolated from the lingual thrush. She later admitted she wasn't taking her medication for several months. Antifungal therapy was started with fluconazonle iv and local nystatine applications. She required several days of parenteral feeding, transfusions and modification of her latest antiretroviral regimen. She had a slow, favorable evolution with the disappearance the lingual and cutaneous modifications and an increase in thrombocyte levels. The diagnosis based on the clinical and microbiological data was of Hyperplastic oral candidiasis, Mild dehydration; the hematological manifestations were considered secondary to her stage B3 HIV infection.
Conclusions: The patient had an unusual and severe form of oral candidiasis, which was revealing for her deep immunodepresion, with a good response to the antifungal and antiviral therapy.

Keywords: fungi, immunodepresion, HIV

14. PROJECTIONS OF TEETH ROWS IN HORIZONTAL LEVEL OF PHANTOM DENTURES

Dimitar Filtchev
Bulgaria

Introduction: The Gizi's arranging methods of artificial teeth on full dentures at the crest of the alveolar ridge are the most common. As important requirement for such arrangement is considered the orthognathic occlusion of toothless alveolar ridges.
Aim**:** The aim of the current study is to correlate and analyze the projections of upper and lower artificial tooth

row in condition of central occlusion of full dentures, made by dental medicine students, on phantom models.
Materials and methods: There were investigated 100 sets of upper and lower full dentures, made by 100 students, aged between 19-22 years, in 3-rd course from Faculty of Dentistry-Sofia, during the exercise of Propaedeutics of Prosthetic Dentistry. The phantom full dentures were studied with the help of manufactured for the purpose analyst of the projections of teeth models. For analyzing of the received curves was used software /Dental Soft/, where they were correlated and saved. By the software the curves were put together and were measured the distances between the two of them in the area of the molars, premolars, front teeth.
Results: Between all studied dentures were observed significant deviations of the arranged teeth from the crest of the alveolar ridge. There was no case to observe full coverage of of the received curves. Between all of them there was deviation to 10,2 mm in different sections from the curves. The average deviation for all reference points was 4,16mm.

15. IMAGING CHARACTERISTICS OF A LARGE ARTERIOVENOUS MALFORMATION OF THE OROMAXILLOFACIAL REGION WITH MULTIPLE PHLEBOLITHS: REPORT OF A CASE

Kaan ORHAN, Murat ICEN, Secil AKSOY, Hakan AVSEVER GATA
Turkey

Introduction: Vascular tumors are the most common benign tumors of the head and neck in infancy and childhood. Vascular anomalies of head and neck were divided in 2 categories including hemangiomas and vascular malformations. Oral and maxillofacial hemangiomas and vascular malformations are congenital lesions with various clinical characteristics, manifestations, indications, and possibilities for treatment. The aim of this paper is to present a large ArterioVenous malformation case in Oral and maxillofacial area with special emphasize on imaging.
Case Report: A 20 year old male with history of swelling in his right face and lip was admitted to our clinic for treatment. There was a large swelling had been growing slowly from his childhood esp. from his upper lip and buccal region. There was no history of trauma, fever, paresthesia, or dysphasia. There was facial asymmetry in his face and bruise can be seen in his right maxillofacial area including his eye. The patient was examined with various radiographic modalities (panoramic radiography, CBCT and MRI), and following this examination the patient was treated by means of endovascular embolization with direct lesion delivery of N-butyl-cyanoacrylate glue.
Conclusion: The lesion had homogeneous signal intensity equal to that of muscle on plain T1-weighted images. However, T2-weighted MR images with the fat suppression technique and contrast enhanced MRI were very useful for the detection of vascular lesions. Phleboliths detectability on CBCT images was superior to that on MR images. However, the lack of soft tissue information limits the diagnostic value of CBCT. 3D visualization of the case can give much more information before planning surgical intervention. In conclusion, tumor detectability on MR images was slightly superior to that on CBCT images.

Keywords: MRI, CBCT, phleboliths

16. DIAGNOSIS OF MAXILLOFACIAL AND DENTOALVEOLAR FRACTURES USING CONE BEAM COMPUTED TOMOGRAPHY

Kaan Orhan, Ayse Isil Orhan
Turkey

Introduction: Dental trauma can lead to injuries in teeth and their supporting structures, occurs most commonly in young patients, and varies in severity from enamel fractures to avulsions in dental tissue. Fractures of the maxillofacial region present difficulties for the dentist, especially when the fractures are localized to dental and paradental structures. Imaging examination is an essential component of the management of traumatic events. It supports all aspects from diagnosis and treatment planning to assessing outcome. The purpose of this case report is to present the clinical use of cone beam CT (CBCT) for the diagnosis of maxillofacial fractures in a traumatized patient.
Case Report: 16 year old female was referred to our department because of trauma to her face due to fall. The patient was initially examined by a medical practitioner in the emergency department of a public hospital. Postero-Anterior and Lateral Head radiographs were taken. According to 2D conventional analysis, no fracture found and the patient was sent to our clinic for detection of dentoalveolar fracture. Initially panoramic radiograph was taken in order to see both maxilla and mandible which exhibited no fractures. However, due to superimpositions a CBCT was decided to perform. Cross-sectional views showed vertical fracture lines on the alveolar bone in the lingual site of mandible between the 31 and 32 teeth Moreover, a fracture line was found in the right frontal-orbital bone and lateral wall of maxillary sinus. CBCT was detected the fractures which could not be seen on conventional radiography.
Conclusion: It can be concluded that CBCT can be a powerful radiography technique for detecting maxillofacial traumas with less ionizing radiation. Because of low-dose radiation CBCT can prefer over medical CT in detection of maxillofacial fractures especially for child and adolescent population with inherent 3D information.

Keywords: CBCT, dentoalveolar trauma, imaging

17. STOMATOGNATIC NEURAL-MUSCULAR MANIFESTATIONS IN DYSFUNCTION SYNDROME OF STOMATOGNATIC SYSTEM

Laura Checherita, Nicoleta Ioanid
Romania

Introduction: Stomatognatic system is an integrated biological system and we can not talk about a barrier, a line of demarcation, regarding the neurological illnesses and the triggering of stomatognatic dysfunction. The neurological disorder will constitute an oversystemic etiological factor of dysfunction syndrome.
The aim of the study: The development of this study represents a natural medical act, because we consider that it is our duty as practitioners to comprehend and the treat from a dental point of view this type of patients.
Material and method: The study was developed two years, on a sample of 43 patients, with the diagnose of Parkinson disease and hemifacial spasm, within the Department of Recovery of Recovery Clinic Hospital of Iasi.
Results and discussions: From these 43 patients, 33 were diagnosed, investigated and filed for the symptomatology of Parkinson's disease, and 10 patients, for hemifacial spasm. Treatment planning must be interdisciplinary established, the dysfunctional syndrome of stomatognatic system was proved in all the 33 cases taken into study, the following table presenting an evaluation of dis-homeostasis type
Conclusions: The high incidence of Parkinson disease within the third age population imposes knowledge regarding the clinical symptomatology by the dental practitioner, because these patients must be treated for the stomatognatic dysfunctions too.

18. RADIATION DOSE IN DENTAL RADIOLOGY

Dusica Bozovic-Behara, Mladen Behara, Biljana Vucetic
Serbia

The aim of this study was to compare radiatio exposure in dental radiology in private practice.
The study was realised for perod from 1996. to 2010. year in dental office ""Dr Behara"" Cacak,Serbia.
State laws and regulations set specific requiremenets for use of ionizing radiation (which includes X-rays).We used record keeping by Institute of ionizing radiation ""Dr D.Karajovic"" Belgrade for this dental office.The results were statistically analyzed.In our practice we used only intraoral radiographic views ad compare with hospitals and medical offices.
The dosage of X-ray radiation recived by a dental patient is typically small equivalen to a fe days' worth of background radiation environmental radiatio exposure.
Radiation exposure associated with dentistry represents a minor contribution in the total exposure from all soucres (about 0,2 percent).
It is estimated that dental X-rays contribute approximately occupational exposure in dental settings is far lowr than that in hospitals and medical officess.

Keywords: dental radiology, radiation dose

19. CLINICAL ROOT RESORPTION INCIDENCE

Mehmet Eray Kolsuz, Bengi Oztas, Mehmet Hakan Kurt, Candan S Paksoy, Kivanc Kamburoglu
Turkey

Introduction: Root resorption can be divided into two main categories: internal root resorption(IRR)and external root resorption (ERR). IRR is a pathology that can lead to tooth destruction in the short term and must consequently be stopped as soon as possible by applying adequate canal treatment. A trauma or an infection may also lead to the development of an external root resorption.Therefore, various types of root resorptions can be classified according to the stimulation factors: pulpal infection resorption, periodontal infection resorption, orthodontic pressure resorption.
Methods: Routinely examined 1000 patients who attended to Ankara University Faculty of Dentistry Department of Dentomaxillofacial Radiology included in the study. After clinical examination full-mouth periapical radiographies were taken. Radiographs were assessed for occurence of IRR and ERR, restoration, apical pathologies, caries, root filling. We used logistic regression with generalized estimating equations (GEE) to analyze the relationship between repeated observations of internal/external resorbsion and caries, restoration, apical pathologies, root filling. Odds Ratios (ORs) and 95% confidence intervals of ORs from the two logistic models are given below. Exchangeble correlation matrix was choosen as the working correlation matrix for GEE. A value of $P < 0.05$ was considered significant.
Results: The mean age of 1000 patients was 33.3±11.64 (min.=16, max.=72). The frequencies of men and women were 421(42.1%) and 579(57.9%), respectively. From a total of 31955 teeth, radiographically, in 403 (1.26%) ERR was found whereas in 25 (0.08%) IRR was found.Due to few number of teeth with IRR statistical analyses was performed only for ERR. There was a statically significant relationship between ERR occurrence and apical pathologies, caries, root filling and restorations ($P<0.001$). Also there was no significant relationship, between tooth type and ERR occurrence ($P>0.05$).
Conclusion: Clinician should use caution when assessing radiographs of teeth with apical pathology, caries, root canal treatment and restorations for the presence of ERR.

Keywords: internal root resorption,external root resorption

20. STUDY ON THE INCIDENCE OF CHRONIC HEPATITIS IN PATIENS WITH ORAL LICHEN PLANUS

Carabineanu Elena, Gheorghe Carmen, Parlatescu Ioanina, Tovaru Serban, Gheorghe Bogdan, Croitoru Alexandru, Arama Stefan
Romania

Introduction: Oral lichen planus (OLP) is a chronic inflammatory disease, with a rate of incidence of 1-2% in general population. It is a condition characterized by chronic evolution and self-limited oral lesions, with periods of remission and exacerbation. OLP can be associated with certain systemic diseases such as hepatitis

C and B, but the pathogenic mechanism is not completely understood.

Aim of study: The aim of this retrospective study is to evaluate the prevalence of hepatitis C virus in patients with OLP compared with those from the control group.

Materials and methods: The study was performed in the Department of Oral Pathology from the Faculty of Dentistry within the ""Carol Davila"" University of Medicine and Pharmacy Bucharest, between 2008-2010. The patients included in this study were divided into two groups:

- The first group was comprised of 168 patients diagnosed with OLP by clinical and histopathological criteria (the study group).
- The second consisted of 168 patients without oral mucosal diseases, which were examined to determine the prevalence of HCV hepatitis in the general population (the control group).

Results: Each of the two examined groups was made up of 168 patients: 129 women (76.78%) and 39 men (23.21%). In the Study group there were 5 patients (2.97%) identified with HBsAg and 45 patients (26.78%) with positive serology for AcVHC. The blood tests performed in the Control group revealed 11 patients (6.54%) with serology positive for AcVHC and 9 patients (5.35%) with HBsAg present.

Conclusions: Our results are similar with those from Mediterranean literature, where the occurrence of the hepatitis C is similar with the one from our country. The research we accomplished brings forth new data on an issue insufficiently studied in Romania, being at the same time one of the fewest studies published here.

Keywords: hepatitis C virus, serology tests, HBsAg, oral lichen planus, AcVHC

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